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# Fertilizer Report

August 1 to December 31, 1920

JAMES W. KELLOGG, Chief Chemist

BUREAU OF CHEMISTRY



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DEPARTMENT OF AGRICULTURE  
Bureau of Chemistry

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PRODUCTS ANALYZED

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OFFICIAL SAMPLES SECURED BY SPECIAL AGENTS

FERTILIZERS	FEEDING STUFFS	LINSEED OIL
PAINT	PUTTY	TURPENTINE
	AGRICULTURAL LIME	

SPECIAL SAMPLES FOR RESIDENTS OF THE STATE

FEEDING STUFFS, \$1.00	LINSEED OIL, \$1.00
AGRICULTURAL LIME, \$1.00	

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LETTER OF TRANSMITTAL.

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PENNSYLVANIA DEPARTMENT OF AGRICULTURE  
BUREAU OF CHEMISTRY

Harrisburg, Pa., April 21, 1921.

Hon. Fred Rasmussen,  
Secretary of Agriculture,  
Harrisburg, Pa.

Dear Sir:—I have the honor to transmit herewith for your approval a report of the results of the inspection of commercial fertilizers during the Fall season of 1920 showing the chemical analyses of official samples received from the authorized special sampling agents and other data thought to be of importance.

It is recommended that this report be published in bulletin form for distribution.

Very respectfully,

JAMES W. KELLOGG,

Chief Chemist.



# FERTILIZER REPORT

August 1 to December 31, 1920.

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## INTRODUCTION.

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The latter part of the year, denoted as the Fall fertilizer inspection season, included 5 months from August 1st to December 31st, 1920, and during this period the special sampling Agents obtained from the fertilizer Sales Agencies throughout the State 607 official samples of fertilizers, which were forwarded to the Bureau of Chemistry for analysis. In addition to the selection of samples reports were also submitted covering each case, showing the information found printed upon sacks or attached cards, together with the prevailing retail selling prices. Many selling agents were visited where none or only a few samples were selected of the stock on hand because of samples representing like brands having been previously obtained and in order to avoid unnecessary duplication. Of this number 559 samples, representing 390 different brands, registered by 59 manufacturing companies, were analyzed for moisture, nitrogen, total, available and insoluble phosphoric acid and water soluble potash, where guarantees for these forms of plant food were given, for the purpose of determining whether or not these guarantees were correct. The few samples not examined, in order to avoid unnecessary duplication, included duplicates of brands selected for analysis and a few brands not found registered with the Department, which resulted in a number of prosecutions in such cases.

The samples analyzed were classified in six classes, which, together with the number of samples in each, were as follows: Complete Fertilizers, supplying nitrogen, available phosphoric acid and potash, 250; Nitrogen and Phosphoric Acid Fertilizers, supplying these forms of plant food, 122; Ground Bone Fertilizers, supplying nitrogen and total phosphoric acid, 19; Acidulated Phosphate Fertilizers, containing available phosphoric acid, 83; Rock and Potash Fertilizers, guaranteed for available phosphoric acid and water soluble potash, 77; and 8 Miscellaneous Fertilizers, including 5 samples of Nitrate of Soda, 1 of "Animal Base Special"; 1 of "Phospho Plaster" and 1 of "Listers Celebrated Ground Bone and Tankage Acidulated."

In addition to the chemical analyses, microscopical examinations were made for the purpose of determining the presence of low grade materials, which, when used, are required to be indicated and none of these materials in appreciable amounts were noted. There were, however, 8 samples representing certain brands, which included the

word "bone" as a part of the brand name, where it is required that the phosphoric acid be entirely derived from animal bone, which were found to be misbranded as the phosphoric acid was not entirely derived from this source but was in part supplied by acidulated phosphate rock. In these cases the manufacturers have corrected the methods of branding both in registrations and as printed upon sacks or attached cards thus complying with the requirements. In another case 1 sample, representing a brand sold as "Pure Fine Ground Bone Meal", was not only found to be deficient in nitrogen and total phosphoric acid but to have been misbranded for the reason that it was found to be a mixture of bone and acidulated phosphate rock.

Of the total number of fertilizers analyzed 101, or 18.1 per cent., were found to be deficient in one or more forms of plant food, which, compared with the two preceding inspection seasons' fertilizers, shows a material decrease in the number of deficiencies noted, however there is room for improvement with respect to showing correct guarantees. The majority of these deficiencies were not excessive and varied from .2 per cent. to as much as .43 per cent. in nitrogen, 4.02 per cent. in available phosphoric acid and 1.88 per cent. in potash, below these respective guarantees. In making use of the estimated retail unit values, prevailing for the fertilizers offered for sale during the Fall season, these maximum deficiencies would represent a loss of approximately \$4.33 for nitrogen, \$7.76 for available phosphoric acid and \$8.66 for potash. These deficiencies were most numerous in the case of the Ground Bone Fertilizers where it was found that 31 per cent. of the samples were below their guarantees. One-fourth of the Rock and Potash Fertilizers, one-fifth of the Complete Fertilizers and one-sixth of the Nitrogen and Phosphoric Acid Fertilizers were classified as being deficient. There were, however, many "overages" in the samples where one of the forms of plant food was deficient, thereby in a measure compensating for the deficiencies found.

The reports submitted by the special Agents, showing the information printed upon sacks or attached cards, indicates that many firms are not complying with the requirements with respect to labeling, thus placing selling Agents in the position of being held responsible. Many cases were noted where part of the guarantees were omitted, in some cases no guarantees were given and in others the names and addresses of manufacturers were not shown. Guarantees are required to be full and complete and to be in agreement with registrations and unless there is a marked improvement in labeling or branding it will be necessary to take drastic action in such cases.

The average retail selling prices were higher for each class of fertilizers than those reported for the corresponding classes selected

during the three preceding inspection seasons and were as follows: Complete Fertilizers, \$46.82; Nitrogen and Phosphoric Acid Fertilizers, \$41.96; Ground Bone Fertilizers, \$63.43; Acidulated Phosphate Fertilizers, \$32.43; and Rock and Potash Fertilizers, \$40.31 a ton. By making use of these average values and the average composition of the mixed fertilizers, an approximate retail value is obtained of from \$10.08 to \$15.00 a unit for nitrogen, \$1.93 a unit for available phosphoric acid and from \$4.61 to \$7.27 a unit for potash.

There were 36 different formula grades of Complete Fertilizers, which showed considerable variation in their selling prices as well as in their compositions, but these variations were of especial interest in brands having the same formula guarantees. In a few of these cases, where a larger number of brands and samples were included, differences of \$22.00 and \$22.50 were noted for fertilizers having the same guaranteed composition, clearly indicating, as previously reported, that it is desirable to make a study of the formulas guaranteed and the prices charged for the several brands of fertilizers offered to the trade if the greatest value is to be had for the money expended.

Determinations were made, insofar as it was possible, for the purpose of studying the relative activity of the organic nitrogen in certain of the brands of fertilizers guaranteed to contain from 1 to 4 per cent. of nitrogen as ammonia and these results are of interest as a considerable variation in the percentage activity of organic nitrogen was noted. It was impossible, because of the large number of samples analyzed, to make determinations for the activity of the organic nitrogen in samples representing every brand included. Of those samples in which a study of the organic nitrogen was made the results indicate that the samples representing brands guaranteed to contain 1 per cent. or less nitrogen as ammonia, as a rule, showed less than 50 per cent. active organic nitrogen, indicating that the source of nitrogen was inferior in quality and of low availability. In these cases the percentage of activity varied from 26.4 to 68.2 per cent., the majority being less than 50 per cent., the average being 43.9 per cent. active. In those brands guaranteed to contain 2 per cent. nitrogen as ammonia the results of the determinations made showed ranges of from 21.00 to 73.8, averaging 53.00 per cent. activity, indicating that in these brands the average of the organic nitrogen was, as a rule, of a good quality. In the few samples representing 3 per cent. nitrogen as ammonia the percentage activity averaged 65.3 per cent. and in 4 per cent. nitrogen as ammonia goods an activity of 67 per cent. was noted.

In the following pages will be found acknowledgments, a discussion of the results of inspection for each class of fertilizer, a table showing the average analyses and retail selling prices for like

brands of Complete Fertilizer, deficiencies, average analyses and retail prices, a key to the tables showing results of analyses in detail for each class of fertilizer received during the Fall inspection season.

#### ACKNOWLEDGMENTS.

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Mr. V. B. Hausknecht, First Assistant Chemist, had charge of the reception and preparation of samples, supervision of the details of the analytical work and the making of duplicate analyses and check determinations where required. Mr. H. E. Gensler performed the microscopical examinations and aided in the analytical work. Mr. W. E. Huber supervised the preparation of tables and the assembling of the necessary data. The chemical analyses were made by the following assistants: Messrs. G. J. Kuhlmann, Jr., F. B. Williams, C. R. Engle and Leroy Pennypacker. The samples were prepared for analysis by W. W. Cassel.

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#### DISCUSSION OF THE RESULTS OF INSPECTION.

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##### COMPLETE FERTILIZERS.

Analyzes in Table I.

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The samples supplying nitrogen, available phosphoric acid and potash and classified as Complete Fertilizers numbered 250, representing 176 different brands registered by 45 companies. They were greater in proportion to the other kinds and brands of fertilizers found offered for sale during the Fall season.

They were guaranteed to contain from .41 to 3.29 per cent. nitrogen, from 7.00 to 12.00 per cent. available phosphoric acid and from 1.00 to 6.00 per cent. potash and were found upon analysis to contain from .45 to 3.33, averaging 1.26 per cent. nitrogen, from 6.85 to 13.36, averaging 8.90 per cent. available phosphoric acid and from .71 to 6.92, averaging 2.33 per cent. potash. The total phosphoric acid varied from 7.91 to 16.14, averaging 10.07 per cent. and the insoluble phosphoric acid was found to be from .30 to 8.26, averaging 1.17 per cent. Compared with last Fall's samples they contained approximately the same amount of nitrogen and available phosphoric acid and showed a slight increase in average potash. More than one-half, or 109 samples, represented brands guaranteed

to contain 2 per cent. of potash, 67 had 1 per cent. guarantees; 35, 4 per cent., 31, 3 per cent., 5, 5 per cent., 2, 1.50 per cent. and 1, 6 per cent. guarantees. In 228 samples the potash was found to be present in the muriate form, including a brand which was intended as a tobacco fertilizer, as indicated by the brand name, 3 as sulphate and 19 in both muriate and sulphate forms. Those samples which analyzed .2 per cent. or more below their guarantees were classed as being deficient. Of the total number of Complete Fertilizers there were 50, or 20 per cent., which failed by this amount to meet their guarantees, 5 being deficient in nitrogen, 19 in available phosphoric acid and 30 in potash. These variations from guarantees amounted to as much as .40 per cent. in nitrogen, 4.02 per cent. in available phosphoric acid and 1.86 per cent. in potash. In many cases, as will be noted, where one element of plant food was deficient, the "overages" in the remaining elements compensated to a large extent for the failure to meet guarantees. The results of microscopical examinations failed to reveal the presence of inferior materials, which, when used, are required to be shown upon sacks or attached cards, however in 3 samples, representing brands of "G. & B.'s Fish Bone and Potash", "Rasin's Royal Fish, Bone and Potash" and "V. C. Fish, Bone and Potash," the phosphoric acid was not entirely derived from animal bone, as is required when the brand name includes the word "bone" but was in part supplied by acidulated phosphate rock. The manufacturers have corrected the brand names in registrations and on sacks to meet the requirements in these cases. As already indicated, quite a variety or range in guarantees were noted for the complete fertilizers and the brands represented included 36 different formula grades, guaranteed to contain like amounts of plant food. The brands having the formula 1-8-2, and therefore guaranteed 1 per cent. nitrogen as ammonia, 8 per cent. available phosphoric acid and 2 per cent. potash, were the most numerous, including 41 samples and 28 brands. Of these brands guaranteed to contain the same amounts of plant food there were variations in their composition, the nitrogen ranging from .70 to 1.30, averaging .96 per cent., the available phosphoric acid from 7.60 to 9.40, averaging 8.45 per cent. and the potash from 1.17 to 3.18, averaging 2.09 per cent. The retail selling prices for this grade ranged from \$39.00 to \$51.50 and averaged \$44.02 a ton, showing a difference of \$12.50 for fertilizers with like guarantees. There were 24 brands and 38 samples having the formula 1-8-1 and the variations in this grade were from .80 to 1.63, averaging 1.01 per cent. nitrogen, from 7.48 to 10.02, averaging 8.58 per cent. available phosphoric acid and from .71 to 2.42, averaging 1.15 per cent. potash. The selling prices were from \$34.00 to \$56.00, averaging \$41.65 a ton, showing a difference of \$22.00 for brands of

fertilizers put out by different firms, which contained essentially the same fertilizing value. Another popular grade had the formula 2-8-2 and included 33 samples and 23 brands, showing variations in composition of from 1.25 to 2.38, averaging 1.71 per cent. nitrogen, from 7.44 to 9.21, averaging 8.52 per cent. available phosphoric acid and from 1.28 to 2.98, averaging 2.24 per cent. potash. The selling prices were from \$38.00 to \$60.50, averaging \$50.57 a ton, a difference of \$22.50 for the same grade of fertilizers. In a like manner, though to a less degree, in those fertilizers which are represented by a less number of samples and brands, similar variations in retail selling values occurred, as will be noted by a study of Table 1, showing the analyses in detail. It is apparent, therefore, that the higher prices charged for certain brands does not purchase greater fertilizing value than could be had for the lower prices charged for those brands supplying similar amounts of plant food. In order that the most value may be had for the money it is important that formula grades of Complete Fertilizers be compared with selling prices before purchases are made. The retail selling values of the Complete Fertilizers ranged from \$34.00, in a brand analyzing 1.10 per cent. nitrogen, 8.93 per cent. available phosphoric acid and 1.54 per cent. potash, to \$70.00 in a brand containing 3.33 per cent. nitrogen, 10.21 per cent. available phosphoric acid and 4.34 per cent. potash and averaged \$46.82 a ton, showing that for about twice as much money approximately three times as much nitrogen, 1.28 per cent. more available phosphoric acid and three times as much potash could have been obtained by purchasing the higher grade of fertilizer. The results of analyses of those brands having the same formula, together with the retail selling prices, have been averaged and are included in the Table which follows for the purpose of showing the average retail selling values prevailing at the time the samples were selected for those fertilizers of like composition. It will, of course, be recognized that where only 1 or a few samples are shown the prices are not representative of the particular formula grades, however where a larger number of brands and samples are included the analyses and prices will be of interest for comparison. The estimated retail values in this class were \$15.00 a unit for nitrogeon, \$1.93 a unit for phosphoric acid and \$4.61 a unit for potash.

Formula.	Number of Brands.	Number of Samples.	Nitro- gen.	Phos- phoric Acid.	Potash.	Price.
1 $\frac{1}{2}$ -7-2,	1	1	0.50	7.48	2.23	\$38 00
1 $\frac{1}{2}$ -8-1,	5	5	0.57	8.60	1.30	36 84
1 $\frac{1}{2}$ -8-2,	4	6	0.67	8.33	2.29	41 33
1-7-1,	10	16	1.01	7.84	1.20	40 62
1-7-3,	1	2	0.90	7.40	3.35	47 25
1-8-1,	24	38	1.01	8.58	1.15	41 65
1-8-1 $\frac{1}{2}$ ,	1	1	0.86	8.51	2.34	45 00
1-8-2,	28	41	0.96	8.45	2.09	44 02
1-8-3,	1	2	0.93	8.76	3.02	43 63
1-8-4,	12	19	1.03	8.59	3.79	49 53
1-8-5,	1	2	0.92	8.91	4.46	48 75
1-9-1,	1	1	1.15	9.92	1.21	37 70
1-9-2,	5	13	1.02	9.66	2.08	47 25
1-9-3,	11	16	1.01	9.73	3.19	47 76
1-10-1,	2	2	1.03	9.90	1.20	40 50
1-10-2,	1	1	0.88	10.72	2.13	36 00
1 $\frac{1}{4}$ -8-1,	1	1	1.25	8.81	1.37	43 50
1 $\frac{1}{4}$ -9-1,	1	1	1.03	8.56	1.01	42 00
1 $\frac{3}{4}$ -7-2,	1	1	1.59	7.43	2.12	45 00
1 $\frac{3}{4}$ -9-1,	1	1	1.95	10.59	1.00	50 00
2-8-2,	23	33	1.71	8.52	2.24	50 57
2-8-3,	9	9	1.69	8.68	3.10	51 50
2-8-4,	7	7	1.87	8.65	4.29	54 63
2-8-5,	2	2	1.83	9.40	4.75	57 13
2-9-1,	1	3	2.02	9.39	1.39	48 94
2-9-3,	1	1	1.58	9.89	3.01	52 00
2-9-5,	1	1	1.76	10.00	5.17	-----
2-10-2,	2	2	1.70	10.71	2.01	46 00
2-10-4,	6	6	1.64	16.33	4.20	57 85
2-12-2,	6	9	1.79	12.53	2.05	56 46
2 $\frac{1}{2}$ -12-1 $\frac{1}{2}$ ,	1	1	1.91	7.88	1.55	45 00
3-8-3,	1	1	3.14	9.90	2.71	60 50
3-8-4,	1	2	2.95	8.93	4.10	57 06
3-9-2,	1	1	2.75	10.49	2.01	49 96
4-8-6,	1	1	3.05	9.23	6.92	63 00
4-10-4,	1	1	3.33	10.21	4.34	70 00
36 <b>Totals,</b>	176	250	1.26	8.90	2.33	\$46 82

## NITROGEN AND PHOSPHORIC ACID FERTILIZERS.

## Analyses in Table II.

The fertilizers guaranteed to contain nitrogen and available phosphoric acid, which were classified as Nitrogen and Phosphoric Acid Fertilizers, including acidulated or dissolved bones and fertilizers of like composition, numbered 122 samples and 92 brands, registered by 42 companies. This class of fertilizers were about half as numerous as the Complete brands, indicating an increase in the number of brands of fertilizers supplying potash and a corresponding decrease in those not containing potash, which is the reverse of the conditions existing previous to and during the war period when potash was scarce and high in value. They were guaranteed to contain from a trace to 3.29 per cent. nitrogen and from 5.00 to 14.00 per cent. available phosphoric acid and upon analysis varied in their composition from .07 to 3.94, averaging 1.49 per cent. nitrogen and from 6.12 to 14.00, averaging 10.16 per cent. available phosphoric acid. The variations in total phosphoric acid were from 8.36 to 15.88, averaging 11.74 per cent. and the insoluble phosphoric acid varied from .24 to 5.06, averaging 1.58 per cent. Nineteen, or 15.6 per cent., of these samples were found to be deficient, 2 containing less nitrogen and 18 less available phosphoric acid than guaranteed. The greatest deficiency amounted to only .22 per cent. in nitrogen and varied from .2 to 3.15 per cent. in the case of available phosphoric acid. There were 4 brands which were improperly branded and which included the word "bone" in the brand name, as upon examination of the samples received they were found to contain phosphoric acid, which was not entirely derived from animal bone as is required in such cases but which was in part supplied by acidulated phosphate rock. They were as follows: "Ludlam's Cecrops Bono Manure", 2 brands of "Fish and Bone Mixture" and "Ammoniated Bone Manure". These brand names have also been corrected by the manufacturers to comply with the requirements. The fertilizers of this class compared very closely in average analysis with those examined during the previous Fall inspection season. The retail selling prices were from \$26.00, in a brand containing .11 per cent. nitrogen and 11.10 per cent. available phosphoric acid, to \$58.00 in one analyzing 2.85 per cent. nitrogen and 10.92 per cent. available phosphoric acid, and averaged \$41.96 a ton, showing an increase over the average value for last Fall's Nitrogen and Phosphoric Acid Fertilizers of \$31.65 a ton.

## GROUND BONE FERTILIZERS.

Analyses in Table III.

The Ground Bone Fertilizers, guaranteed for nitrogen and total phosphoric acid received and analyzed, numbered 19 samples, 16 brands registered by 13 companies. They were guaranteed to contain from 1.65 to 3.71 per cent. nitrogen and from 18.30 to 25.00 per cent. total phosphoric acid and were found to contain from 2.35 to 4.60, averaging 3.22 per cent. nitrogen and from 16.80 to 29.72, averaging 23.40 per cent. total phosphoric acid. Six, or 31.6 per cent., of the samples were found to be deficient, there being 2 cases where the nitrogen and 5 cases where the total phosphoric acid was less than guaranteed. The greatest deficiencies amounted to .43 per cent. in nitrogen and 3.20 per cent. in total phosphoric acid. The degrees of fineness, determined by sieving with a 1-50th of an inch mesh sieve, showed variations of from 54 to 77, averaging 65 per cent. "fine" and from 23 to 46, averaging 35 per cent. "coarse". Compared with the samples examined during the previous Fall inspection season they averaged .48 per cent. less nitrogen, the same amount of total phosphoric acid and 5 per cent. more "fine". One sample, representing a brand of "G, & B.'s Pure Fine Ground Bone Meal", was deficient in both nitrogen and total phosphoric acid and was found to be not Pure Ground Bone Meal as branded but to be a mixture of Ground Bone and Acidulated Phosphate Rock. The retail selling values were reported as being from \$45.00 for the brand which was found to be not Pure Bone Meal and which contained 2.86 per cent. nitrogen and 16.80 per cent. total phosphoric acid, to \$76.00 for 2 brands which contained 3.55 and 4.35 per cent. nitrogen and 18.75 and 23.47 per cent. total phosphoric acid and averaged \$63.43 a ton, compared with \$55.85, shown as the average value for the 23 samples of Ground Bone Fertilizers received during the previous Fall inspection season. It was estimated for this class of fertilizers that the retail unit value of nitrogen would be approximately \$15.00 and the phosphoric acid \$1.93.

## ACIDULATED PHOSPHATE FERTILIZERS.

Analyses in Table IV.

There were 83 samples of Acidulated Phosphate Fertilizers representing 47 brands, registered by 33 companies, which were guaranteed to contain from 13 to 16 per cent. available phosphoric

acid. There were 66 samples representing brands with 16 per cent; 11 with 14 per cent. and 6 with 13 per cent. guarantees. They varied in their analyses from 12.19 to 18.62 and averaged 16.84 per cent. available phosphoric acid. Determinations for total phosphoric acid showed variations of from 14.35 to 19.58, averaging 17.71 per cent. and the insoluble phosphoric acid ranged from .10 to 3.26 and averaged .87 per cent. Five, or 6 per cent., of the samples were found to contain from .2 to .81 per cent. less available phosphoric acid than claimed, the deficiencies not being excessive and markedly less in proportion than those observed for this class of fertilizers received during the previous Fall inspection. Many of the samples considerably exceeded their guarantees. The retail selling values were from \$20.00, in a brand analyzing 18.27 per cent. available phosphoric acid, to \$39.00 in one containing 14.91 per cent. available phosphoric acid and averaged \$32.43 a ton, showing an approximate average retail value for phosphoric acid of \$1.93 a unit, or 9½c a pound. The average retail values for the Acid Phosphate Fertilizers, received during the preceding Fall and Spring inspection seasons, were \$26.56 a ton and \$1.71 a unit and \$28.03 a ton and \$1.74 a unit respectively, showing an increase in the retail value of the phosphoric acid supplied by the Acid Phosphates sold during the season covered by this report.

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#### ROCK AND POTASH FERTILIZERS.

##### Analyses in Table V.

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There were 77 samples, representing 53 brands of fertilizers, registered by 30 companies, guaranteed for available phosphoric acid and water soluble potash, which were classified as Rock and Potash Fertilizers. The guarantees ranged from 6.00 to 12.00 per cent. available phosphoric acid and from 1.00 to 5.00 per cent. potash and they were found, upon analysis, to contain from 6.46 to 14.04, averaging 10.60 per cent. available phosphoric acid, and from .12 to 6.46, averaging 2.73 per cent. potash. The determinations for total phosphoric acid showed variations of from 6.95 to 14.54, averaging 11.48 per cent. and from .22 to 1.66, averaging .88 per cent. insoluble phosphoric acid. The majority of the samples were guaranteed 2 per cent. potash and in 73 samples it was present in the form of muriate of potash, 2 as sulphate of potash and 2 samples contained it in both the muriate and sulphate forms. There were 21, or 27.3 per cent., of the samples which failed to meet their guarantees, 6 being deficient in available phosphoric acid and 15 in potash

the greatest differences being 1 per cent. and 1.88 per cent. of these respective nutrients. The retail selling values were reported as being from \$33.00 to \$53.00 and averaged \$40.31 a ton, being in excess of the average of \$32.00 and \$36.96 for the preceding Fall and Spring inspection season' fertilizers of this class. By making use of the unit value of \$1.93 for phosphoric acid, as supplied by the Acidulated Phosphate Fertilizers, in arriving at the value of phosphoric acid in the Rock and Potash Fertilizers, the retail value of the potash would approximate \$7.27 a unit, or 36c a pound.

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#### MISCELLANEOUS SAMPLES.

Analyses in Table VI.

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There were 8 samples classified as Miscellaneous Fertilizers, including 5 samples and 3 brands of Nitrate of Soda, which averaged 16.03 per cent. nitrogen and retailed at an average price of \$84.90 a ton; 1 sample of "Animal Base Special", analyzing 1.60 per cent. nitrogen, 20.03 per cent. total phosphoric acid and selling for \$55.00 a ton; 1 sample of "Phospho Plaster", containing 4.79 per cent. available phosphoric acid and a sample of "Listers Celebrated Ground Bone and Tankage Acidulated", containing 2.56 per cent. nitrogen and 13.20 per cent. total phosphoric acid selling at \$70.00 a ton. This latter brand contained acidulated phosphate rock which supplied part of the phosphoric acid thus making the brand name incorrect but this subsequently was corrected to meet requirements. There were no deficiencies noted among these samples.

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#### DEFICIENCIES.

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The samples of fertilizers which were classified as being deficient in one or more forms of plant food were those which, upon analysis, were found to be .2 per cent. or more below their guarantees in nitrogen, phosphoric acid and potash and those having .50 per cent. guarantees and analyzing .10 per cent. or more below their guarantees were also classed as being deficient. In the tables showing the results of analyses these deficient cases are indicated by an asterisk (\*). Of the 559 samples analyzed, 101, or 18.1 per cent., were found

to be deficient in one or more of their guaranteed constituents. Of the 398 samples containing nitrogen, 9, or 2.3 per cent., were deficient. There were 533 samples guaranteed for available phosphoric acid and of these 48, or 9.0 per cent., were deficient: Those guaranteed for water soluble potash numbered 327 and 45, or 13.8 per cent., were found deficient. There were 21 samples guaranteed for total phosphoric acid which included Ground Bones and 2 Miscellaneous Fertilizers and 5, or 23.8 per cent., of these were below their guarantees. Considering the failures to meet guarantees by classes of fertilizers there were 50, or 20 per cent., of the Complete Fertilizers which contained less plant food than claimed, 5, or 2.0 per cent., being deficient in nitrogen, 19, or 7.6 per cent., in available phosphoric acid and 30, or 12.0 per cent., were deficient in potash, the largest deficiencies amounting to .40 per cent., 4.02 per cent. and 1.86 per cent. respectively. Of the Nitrogen and Phosphoric Acid Fertilizers, 19, or 15.6 per cent., of the samples did not meet their guarantees and 2, or 1.6 per cent., were deficient in nitrogen and 18, or 14.8 per cent., were deficient in available phosphoric acid, the largest deficiencies being only .22 per cent. in nitrogen and amounted to 3.15 per cent. in the case of available phosphoric acid. Six, or 31.6 per cent., of the Ground Bone Fertilizers were deficient, 2, or 10.5 per cent., being deficient, up to .43 per cent. in nitrogen, and 5, or 26.3 per cent., contained less total phosphoric acid than guaranteed, amounting to as much as 3.20 per cent. Of the Acidulated Phosphate Fertilizers, 5, or 6.0 per cent., failed to meet their guarantees in available phosphoric acid, the largest deficiency amounting to .81 per cent. A large proportion of the Rock and Potash Fertilizers, 21, or 27.3 per cent., were below their guarantees, there being 6, or 7.8 per cent., deficient in available phosphoric acid, amounting to as high as 1 per cent., and 15, or 19.5 per cent., of the samples were low in potash, the greatest deficiency amounting to 1.88 per cent. There were no deficiencies noted among the Miscellaneous samples. While, as will be noted, many of the deficiencies were not excessive and the many "overages", which, to a large extent compensated for those which were found to contain less food than claimed, there is considerable room for improvement with respect to correctly guaranteeing the several brands of fertilizers. Compared with the number of deficiencies noted for the preceding Fall of 1919 inspection season's fertilizers, showing 25.4 per cent. of the samples, and of the fertilizers reported for the preceding Spring season of 1920, where 29.9 per cent. of the samples, failed to meet their guarantees, 18.1 per cent. deficiencies, noted for the fertilizers included in this report, indicates a decided drop in those cases which failed to meet their guarantees. A rough estimate of the amounts of deficient nitrogen, phosphoric acid and potash in those cases which were noticeably below their

guarantees, based on the prevailing retail unit values, would indicate a considerable loss to the purchasers and in the cases of the maximum deficiencies noted on the ton basis would amount to approximately \$4.33 for nitrogen, \$7.76 for available phosphoric acid and \$8.66 for potash. The following Table will show the number of samples of each class of fertilizer and the number of each deficient in nitrogen, phosphoric acid and potash.

Classes of Fertilizers.	Number of samples.	Deficient in nitrogen.	Deficient in available phosphoric acid.	Deficient in potash.
Complete fertilizers, -----	250	5	19	30
Nitrogen and phosphoric acid fertilizers, -----	122	2	18	-----
Ground bone fertilizers, -----	19	2	*5	-----
Acidulated phosphate fertilizers, -----	83	-----	5	-----
Rock and potash fertilizers, -----	77	-----	6	15
Miscellaneous fertilizers, -----	8	-----	-----	-----
Totals, -----	559	9	53	45

\*Total phosphoric acid.

#### AVERAGE ANALYSES AND RETAIL PRICES.

The average composition of each class of fertilizer compares favorably with the averages estimated for the same classes as reported for the sample analyzed during the corresponding Fall season of 1919 and the preceding Spring Season of 1920. In the case of the Complete Fertilizers the content of potash averaged .22 per cent. more and .50 per cent. less and the nitrogen a little lower and the available phosphoric acid .06 per cent. lower and .48 per cent. higher than obtained for the brands received during these two respective preceding seasons. In the case of the Nitrogen and Phosphoric Acid Fertilizers, comparisons of the same season's goods show very close averages. The compositions noted during the same periods in the Ground Bone Fertilizers show but small differences except that the nitrogen exceeded by .06 per cent. the nitrogen in the samples received during the Spring season of 1920. The Acidulated Phosphate Fertilizers averaged higher, or 16.84 per cent. available

phosphoric acid, compared with the averages of 15.55 per cent. and 16.08 per cent. for these respective seasons' brands and the averages estimated for the Rock and Potash Fertilizers showed only slight variations. The average analyses and retail selling prices for each class of fertilizers received during the Fall inspection season are as follows:

	Complete fertilizers.	Nitrogen and phosphoric acid fertilizers (dissolve bones, etc.)	Ground bone fertilizers.	Acidulated phosphate fertilizers.	Rock and potash fertilizers.
Number of samples, -----	250	122	19	83	77
Moisture, -----	%	%	%	%	%
Total nitrogen, -----	3.69	3.13	3.91	2.41	3.66
Total phosphoric acid, -----	1.26	1.49	3.22		
Available phosphoric acid, -----	10.07	11.74	23.40	17.71	11.48
Insoluble phosphoric acid, -----	8.90	10.16		16.84	10.60
Potash, -----	1.17	1.58		0.87	0.88
	2.33				2.73
Mechanical analysis of bone:					
Fine, -----			65		
Course, -----			35		
Selling price, -----	\$46.82	\$41.96	\$63.43	\$32.43	\$40.31

A comparison of the average retail selling prices with the average values obtained for the same fertilizers offered for sale during the three preceding inspection seasons show that the selling prices averaged the higher for the fertilizers sold during the Fall season of 1920. A study of these average values will prove of interest and in order that comparisons may be more readily made the average retail selling prices estimated for each class of fertilizer received during the Spring and Fall inspection seasons of 1919 and 1920 have been tabulated as follows:

	1919		1920	
	Spring.	Fall.	Spring.	Fall.
Complete fertilizers, -----	\$42.87	\$34.91	\$44.15	\$46.82
Nitrogen and phosphoric acid fertilizers, -----	37.99	31.65	38.49	41.96
Ground bone fertilizers, -----	53.81	55.85	58.77	63.43
Acidulated phosphate fertilizers, -----	27.89	26.56	28.03	32.43
Rock and potash fertilizers, -----	37.18	32.00	36.96	40.31

The foregoing average values of the fertilizers included in the last column, as will be noted, are the highest reported for the four seasons' brands, however as these values were those prevailing at the time most of the samples were selected and as subsequently most values of

all grades of fertilizers as well as many other commodities have undergone a decided decrease they do not represent the price conditions at the time of the preparation of this report, nor do they indicate what the Spring season of 1921 values are likely to be, but rather only show the conditions prevailing at the time the Fall inspection was made. A comparison of these average retailed prices in the terms of retail unit values will be of interest as heretofore included in previous reports as follows.

The average content of available phosphoric acid and retail selling prices for the Acid Phosphate Fertilizers gives a value of \$1.93 a unit, or  $9\frac{1}{2}$ c a pound for phosphoric acid. By using this value and the average content of available phosphoric acid and nitrogen and the average retail selling price in the case of the Nitrogen and Phosphoric Acid Fertilizers a value of \$15.00 a unit, or 75c a pound, for nitrogen is obtained. The nitrogen, as supplied by Nitrate of Soda, costs very much less than in mixed goods, as shown by the 5 samples of Nitrate of Soda, which averaged 16.03 per cent. nitrogen and \$84.90 a ton, giving a value of \$5.30 a unit, or  $26\frac{1}{2}$ c a pound, for nitrogen. The retail values thus obtained for available phosphoric acid and nitrogen, applied to the averages shown for the Complete Fertilizers, gives a retail value of \$4.61 a unit, or 23c a pound for potash. In a similar manner by using the retail unit value of \$1.93 for phosphoric acid, as supplied by the Acid Phosphates and the averages estimated for the Rock and Potash Fertilizers, a value of \$7.27 a unit, or 36c a pound, is obtained for potash. Another value for nitrogen, as supplied by the Complete Fertilizers, may be estimated by using the averages shown for this group of fertilizers and the unit values of \$1.93 for phosphoric acid and \$7.27 a unit for potash, as supplied by the Rock and Potash Fertilizers, giving a value of \$10.08 a unit, or 50c a pound, for nitrogen. The retail values, prevailing for the mixed fertilizers selected during the Fall inspection season, would, therefore, be approximately from \$10.08 to \$15.00 a unit for nitrogen, \$1.93 a unit for available phosphoric acid and from \$4.61 to \$7.27 a unit for water soluble potash. As would be expected, because of the higher average retail values for each class of fertilizers, the unit values thus obtained are proportionately higher than those reported for the three previous inspection seasons' brands.

## KEY TO TABLES.

The following tables include the detailed results of chemical analyses of each sample. All samples were given a chemist's number as shown in the extreme left and right hand columns and are grouped in alphabetical order to manufacturers and brand names. Each class is shown in separate tables and the following information will serve as a key to these tables:

The asterisk (\*) indicates the cases where total nitrogen, available phosphoric acid and total potash are deficient to the extent of .2 per cent. or more below their respective guarantees. In cases where the guarantees are .5 per cent. or less the deficiencies noted are where the amount is .1 per cent. or more below the guarantees.

Order of results of analysis: Moisture, Total Nitrogen found and guaranteed, Total Phosphoric Acid found and guaranteed; Available Phosphoric Acid found and guaranteed; Insoluble Phosphoric Acid found and guaranteed; Total Potash found and guaranteed, and Potash as Muriate and as Sulphate.

To determine the formula of any brand, as guaranteed, multiply Total Nitrogen guaranteed by 1.2158 to obtain Ammonia and then use this figure and the guarantees for Available Phosphoric Acid and Total Potash. For example, Nitrogen guarantee equals .82% (.82x 1.2158=1%). Ammonia equals 1% Available Phosphoric Acid 8% Potash 1%. Formula therefore is 1-8-1.

Complete Fertilizers, Table I, furnishing Nitrogen, Phosphoric Acid and Potash.

Nitrogen and Phosphoric Acid Fertilizers, Table II, including Dissolved Bones and other like products.

Ground Bone Fertilizers, Table III, furnishing Nitrogen and Phosphoric Acid.

Acidulated Phosphate Fertilizers, Table IV, furnishing Phosphoric Acid.

Rock and Potash Fertilizers, Table V, furnishing Phosphoric Acid and Potash.

Miscellaneous Fertilizers. Table VI, including Nitrate of Soda, "Animal Base Special" "Phospho Plaster" and "Lister Celebrated Ground Bone and Tankage Acidulated."



Table No. I.  
Furnishing Nitrogen,

Chemist's number.	Name of Manufacturer and Brand	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
9815	Allen's Popular Phosphate, -----	Harvey Detwiler, Chester Springs, -----
9913	Bowker's Corn and Wheat Guano, -----	Weaver & Berkey, Windber, -----
9981	Bradley's New Method Fertilizer, -----	A. E. Woodruff & Son, Wysox, -----
9792	Bradley's Niagara Phosphate, -----	Eli Reimer, Flicksville, -----
9552	Canton Chemical Bakers' Special Wheat, Corn and Grass Mixture, -----	H. F. Gump & Son, Everett, -----
9997	Canton Chemical Bakers' Speial Wheat, Corn and Grass Mixture, -----	King Brothers, Uniontown, -----
9831	Canton Chemical Bakers' Special Wheat, Corn and Grass Mixture, -----	A. K. Kulp, Pottstown, -----
9854	Canton Chemical Bakers' Special Wheat, Corn and Grass Mixture, -----	W. B. Winey, Middleburg, -----
9711	Canton Chemical Harrow Brand Crop Grower, -----	J. H. Bell, New Wilmington, -----
9693	Josiah Cope's Spring and Fall Mixture, -----	J. S. Hershberger, Everett, -----
9622	Josiah Cope's Wheat and Grass Special, -----	F. E. Bailey, Northbrook, -----
9556	Josiah Cope's Wheat and Grass Special, -----	Jones Evanson, Christiana, -----
9714	Crocker's New Rival Fertilizer, -----	J. G. Nelson, New Castle, -----
9666	Crocker's New Rival Fertilizer, -----	Harry Ryland, Cressona, -----
9863	Dead Shot Phosphate, -----	Edward Gearhart, Richfield, -----
9787	Deitriek's Paragon Ammoniated Phosphate and Potash, -----	Emaus Coal & Lumber Co., Emaus, -----
9549	W. S. Farmer's Clyde Brand, 1916, -----	E. C. Mengle, Liverpool, -----
9542	W. S. Farmer's Diamond Brand, -----	E. C. Mengle, Liverpool, -----
9995	W. S. Farmer's Harvest Queen, -----	W. R. McCartney, Farmington, -----
9925	Great Eastern General, -----	Torence DeLong, Loganton, -----
9829	Great Eastern General, -----	Estate of Geo. Snyder, Hatfield, -----
9830	Great Eastern Special Crop Fertilizer, -----	Estate of Geo. Snyder, Hatfield, -----
9898	Ludlam's Cecrops No. 2, for Grain and Grass, -----	N. B. Shober, Garret, -----
9660	Milson's Wheat, Oats and Barley, -----	Samuel Heim, Pitman, -----
9814	Moro-Philip's C. & G. Complete Fertilizer, -----	C. A. Wamsley, Phoenixville, -----
9763	Nassau General Favorite, -----	A. H. Fell, Danboro, -----
9764	Nassau Wheat and Grass Grower, -----	A. H. Fell, Danboro, -----
9489	Nassau Wheat and Grass Grower, -----	D. H. Maust, Jerseytown, -----
9731	Nassau Wheat and Grass Grower, -----	Wm. Olinger, Shoemakersville, -----
9946	Old Reliable Phosphate, 1920, -----	H. M. Stouffer, Leola, -----
10001	Packer's Union Universal Fertilizer, 1920, -----	Chas. W. Holt, Farmington, -----
9649	Patapseo Columbian Fertilizer, -----	Oscar Vanbusker, Clark Summit, -----
9839	Patapseo Coon Brand Guano, 1916, Revised, -----	Fred Mick, Cresco, -----
9842	Patapseo Planters' Favorite, -----	Fred Mick, Cresco, -----
9841	Patapseo Special Complete Manure, -----	Fred Mick, Cresco, -----
9648	Patapseo Special Complete Manure, -----	Oscar Vanbusker, Clark Summit, -----
9851	Patapseo Vegetable and Corn Fertilizer, -----	B. Vansickel, Cortez, -----
9632	Read's Farmers' Friend Superphosphate, Revised, -----	Simpson Brothers, Norristown, -----
9631	Read's Pioneer Fertilizer, -----	Simpson Brothers, Norristown, -----
9601	Royal Potash Mixture, -----	Wm. B. Barnitz, Carlisle, -----
9604	Sharpless and Carpenter No. 2, for Grain and Grass, -----	Wm. B. Barnitz, Carlisle, -----
9745	Sharpless and Carpenter No. 2, for Grain and Grass, -----	J. J. Eshelman, Gibraltar, -----
9634	Susquehanna Ammoniated Phosphate, Revised, -----	A. H. Kelly & Son, Schwenksville, -----
9633	Susquehanna XXV Phosphate, -----	A. H. Kelly & Son, Schwenksville, -----
9429	Susquehanna XXV Phosphate, -----	Wm. O. & Amos S. Kral, Myerstown, -----
9816	Tygart-Allen's Standard Brand Phosphate, -----	Harvey Detwiler, Chester Springs, -----
9817	Tygart-Allen's Star Brand Phosphate, Revised, -----	Harvey Detwiler, Chester Springs, -----

Complete Fertilizers.  
Phosphoric Acid and Potash.

Moisture.	NITRO-GEN.		PHOSPHORIC ACID.						POTASH.						Selling price per ton at place of selection.	Chemist's number.		
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as muriate.		Present as sulphate.					
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.			Present.	Guaranteed.	Present.	Guaranteed.				
%	%	%	%	%	%	%	%	%	%	%	%	%	%	\$	%			
1.47	0.76	0.82	9.25	9.00	8.19	8.00	1.06	1.00	2.38	2.00	2.38	-----	47.00	9815				
4.50	1.85	1.65	9.38	9.00	8.46	8.00	0.92	1.99	4.02	4.00	4.02	-----	58.00	9913				
5.52	1.00	0.82	9.50	9.00	8.44	8.00	1.06	1.00	2.00	2.00	2.00	-----	45.00	9981				
1.50	1.07	0.82	8.39	8.00	7.35	7.00	1.04	1.00	1.15	1.00	0.80	0.35	39.50	9792				
4.15	1.14	0.82	10.60	10.00	9.50	9.00	1.10	1.00	*1.76	2.00	1.76	-----	46.50	9552				
3.85	1.05	0.82	11.42	10.00	9.34	9.00	2.08	1.00	1.94	2.00	0.90	1.04	49.00	9997				
2.50	0.93	0.82	9.57	10.00	*8.75	9.00	0.82	1.00	*1.59	2.00	1.50	-----	47.00	9831				
1.32	1.09	0.82	11.16	10.00	9.68	9.00	1.48	1.00	*1.79	2.00	1.79	-----	46.00	9854				
2.77	1.10	0.82	10.59	9.00	9.35	8.00	1.24	1.00	1.27	1.00	1.27	-----	40.00	9711				
1.37	1.20	0.82	10.31	9.00	8.93	8.00	1.38	1.00	*1.67	2.00	0.90	0.77	40.00	9693				
6.00	1.00	0.82	10.01	9.00	9.37	8.00	0.64	1.00	1.12	1.00	1.12	-----	42.00	9622				
3.22	0.85	0.82	9.57	9.00	8.51	8.00	1.06	1.00	1.12	1.00	1.12	-----	41.00	9556				
1.85	1.04	0.82	12.18	10.00	10.06	9.00	2.12	1.00	1.85	2.00	1.00	0.85	46.50	9714				
1.32	1.28	0.82	10.08	10.00	9.20	9.00	0.88	1.00	2.15	2.00	2.15	-----	-----	9666				
1.90	0.90	0.82	9.12	8.00	8.04	7.00	1.08	1.00	1.01	1.00	1.01	-----	42.00	9583				
0.67	0.90	0.82	7.91	8.00	6.85	7.00	1.06	1.00	1.14	1.00	1.14	-----	42.00	9787				
7.90	1.19	0.82	9.25	9.00	8.06	8.00	1.19	1.00	0.93	1.00	0.93	-----	40.00	9540				
5.22	1.14	0.82	9.66	9.00	8.14	8.00	1.52	1.00	*1.79	2.00	0.70	1.09	42.00	9542				
9.65	0.94	0.82	10.52	10.00	9.66	9.00	0.86	1.00	*2.68	3.00	2.68	-----	50.00	9915				
2.50	0.85	0.82	9.57	9.00	8.69	8.00	0.88	1.00	4.43	4.00	4.43	-----	49.80	9925				
2.00	0.85	0.82	9.12	9.00	8.46	8.00	0.66	1.00	*3.76	4.00	3.76	-----	49.00	9529				
1.87	1.00	0.82	11.48	11.00	9.94	10.00	1.54	1.00	1.21	1.00	1.21	-----	42.00	9830				
1.90	1.05	0.82	8.55	8.00	7.95	7.00	0.60	1.00	1.26	1.00	1.26	-----	40.00	9588				
1.45	1.05	0.82	9.44	9.00	8.58	8.00	0.86	1.00	2.70	2.00	2.70	-----	-----	9660				
1.65	0.90	0.82	8.48	9.00	*7.60	8.00	0.88	1.00	2.35	2.00	2.35	-----	45.00	9814				
0.72	1.10	0.82	8.67	9.00	7.90	8.00	0.77	1.00	3.62	4.00	3.62	-----	46.00	9763				
1.17	0.85	0.82	9.31	9.00	8.17	8.00	1.14	1.00	2.24	2.00	2.24	-----	39.50	9764				
2.07	0.87	0.82	10.46	9.00	8.18	8.00	2.28	1.00	2.14	2.00	0.70	1.44	-----	9489				
0.92	0.83	0.82	9.18	9.00	8.20	8.00	0.98	1.00	1.89	2.00	1.89	-----	39.50	9731				
8.52	1.75	1.65	11.86	11.00	10.54	10.00	1.32	1.00	2.00	2.00	2.00	-----	53.00	9946				
6.15	0.85	0.82	8.67	9.00	8.09	8.00	0.58	1.00	1.19	1.00	1.19	-----	48.00	10001				
4.35	2.75	2.47	11.23	10.00	10.49	9.00	0.74	1.00	2.01	2.00	2.01	-----	49.96	9649				
2.00	1.15	0.82	11.10	10.00	9.92	9.00	1.18	1.00	1.21	1.00	0.60	0.61	27.70	9819				
2.00	2.38	1.65	10.78	9.00	9.16	8.00	1.62	1.00	2.28	2.00	2.28	-----	46.50	9842				
1.50	2.95	2.47	9.50	9.00	8.70	8.00	0.80	1.00	4.17	4.00	4.17	-----	59.25	9841				
2.05	2.95	2.47	10.20	9.00	9.16	8.00	1.04	1.00	4.03	4.00	4.03	-----	54.86	9648				
2.47	1.86	1.65	11.03	9.00	8.51	8.00	2.52	1.00	4.58	4.00	4.58	-----	52.00	9851				
8.25	1.64	1.65	8.42	9.00	7.90	8.00	0.52	1.00	3.00	3.00	3.00	-----	56.00	9632				
5.60	1.12	0.82	8.74	9.00	8.12	8.00	0.62	1.00	1.87	2.00	1.87	-----	46.00	9631				
1.92	1.15	0.82	10.22	9.00	9.20	8.00	1.02	1.00	1.88	2.00	1.88	-----	42.50	9601				
2.37	1.01	0.82	8.71	8.00	7.93	7.00	0.78	1.00	1.02	1.00	1.02	-----	38.00	9604				
0.22	1.00	0.82	8.42	8.00	7.32	7.00	1.10	1.00	1.00	1.00	1.00	-----	44.00	9745				
2.25	1.75	1.65	9.63	9.00	8.45	8.00	1.18	1.00	2.01	2.00	2.01	-----	55.00	9634				
2.05	1.05	0.82	10.59	9.00	9.21	8.00	1.38	1.00	1.05	1.00	1.05	-----	45.00	9625				
3.05	1.00	0.82	9.67	9.00	8.65	8.00	1.02	1.00	1.10	1.00	1.10	-----	36.75	9429				
1.30	1.58	1.65	9.82	9.00	8.58	8.00	1.06	1.00	2.27	2.00	2.27	-----	54.00	9816				
1.07	1.73	1.65	9.38	9.00	8.32	8.00	1.24	1.00	3.31	3.00	3.31	-----	58.00	9817				

\*Deficient.

TABLE I.—COMPLETE

Chemist's number	Name of Manufacturer and Brand	Sample Taken From
9677	Whann's Chester Valley General Crop, -----	Millard Schwalm, Valley View, -----
9739	Whann's Chester Valley Special Ammoniated Superphosphate, Revised.	Wm. F. Kriek, Sinking Springs, -----
9773	Whann's Chester Valley Standard Fertilizer.	John R. Detweiler, Perkasie, -----
9876	Whann's Chester Valley Standard Fertilizer.	Millard Schwalm, Valley View, -----
9923	Wheeler's Corn Fertilizer, -----	Torenee DeLong, Loganton, -----
9833	Wheeler's Corn Fertilizer, -----	W. M. Sayer, Moseow, -----
10002	Wheeler's Royal Wheat Grower, -----	Chas. W. Holt, Farmington, -----
9791	Wooldridge's Ammoniated Phosphate, -----	C. B. Horlacher, Limeport, -----
9894	Wooldridge's Clover Blossom, -----	Ross Sechler, Myersdale, -----
9754	Wooldridge's Surety Crop Grower, -----	Geo. Bond, Kemptown, -----
9428	Wooldridge's Triangle Brand, -----	Calvin Grch, Schaefferstown, -----
9868	Zell's Little Treasure, -----	Walter Winey, Mexico, -----
THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, THE POLLOCK FERTILIZER CO., BRANCH, NEW YORK, N. Y.		
9568	Pollock's Crop Invigorator, -----	J. M. Scott, Petersburg, -----
9555	Pollock's Special Wheat and Corn Fertilizer.	Blackburn Milling Co., Cessna, -----
9860	Pollock's Special Wheat and Corn Fertilizer.	M. P. Herman, Selinsgrove, -----
AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.		
9914	American Grain and Grass Grower, -----	John G. Emert, Somerset, -----
ARMOUR FERTILIZER WORKS, BALTIMORE, MD.		
9576	Cereal Special No. 3, -----	F. W. Hyman, Jersey Shore, -----
10006	Crop Grower, -----	W. H. Dunlap, Jr., Canonsburg, -----
9798	Crop Grower, -----	Harvey C. Dutt, Bangor, -----
9789	Grain Grower, -----	C. W. Allonay, Limeport, -----
9470	Grain Grower, -----	Chester Grove, West Milton, -----
9577	Grain Grower, -----	E. W. Hyman, Jersey Shore, -----
9790	Royal Ammoniated, -----	C. W. Allonay, Limeport, -----
9797	Wheat, Corn and Oats Special, -----	Harvey C. Dutt, Bangor, -----
9790	Wheat, Corn and Oats Special, -----	J. E. Knerr, Northampton, -----
9767	Wheat, Corn and Oats Special, -----	J. S. Weierbach Son, Pleasant Valley, -----
BAUGH & SONS COMPANY, PHILADELPHIA, PA.		
9549	Baugh's Double Eagle Phosphate, -----	Francis Baker, Everett, -----
9696	Baugh's Double Eagle Phosphate, -----	P. W. Foust & Sons, Chambersburg, -----
9905	Baugh's Double Eagle Phosphate, -----	C. H. Schmucker, Friedens, -----
9930	Baugh's Excelsior Guano, -----	J. G. Hall, New Providence, -----
9765	Baugh's Excelsior Guano, -----	Wm. S. Sassaman, Ottsville, -----
9796	Baugh's General Crop Grower, -----	H. E. Knappenberger, Coopersburg, -----
9838	Baugh's General Crop Grower, -----	J. A. Seguin, Cresco, -----
9836	Baugh's Wheat Fertilizer for Wheat and Grass.	J. A. Seguin, Cresco, -----
9507	Baugh's Wheat Fertilizer for Wheat and Grass.	Thomas, Haines Co., Malvern, -----
9907	Baugh's Wheat Fertilizer for Wheat and Grass.	J. N. Walter, Stoystown, -----
BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.		
9888	Bowker's Square Brand Farm and Garden Phosphate.	E. J. Lutz, Beach Haven, -----

## FERTILIZERS—Continued.

Moisture.	NITRO-GEN.		PHOSPHORIC ACID.						POTASH.						Selling price per ton at place of selection.	Chemist's number.		
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.		Guaranteed.		Present as muriate.					
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as sulphate.	Present as sulphate.	Present as sulphate.	Present as sulphate.				
1.20	1.30	0.82	9.44	9.00	8.42	8.00	1.02	1.00	2.01	2.00	2.01	—	—	—	9677			
0.90	0.95	0.82	8.55	9.00	7.93	8.00	0.62	1.00	1.03	1.00	1.03	—	—	—	9739			
1.00	1.88	1.65	8.48	9.00	*7.70	8.00	0.78	1.00	2.20	2.00	2.20	—	—	51.00	9773			
1.32	1.70	1.65	9.50	9.00	8.42	8.00	1.08	1.00	2.21	2.00	2.21	—	—	46.00	9676			
3.05	1.47	1.65	10.72	9.00	9.12	8.00	1.60	1.00	2.06	2.00	2.06	—	—	49.30	9923			
1.60	2.00	1.65	9.57	9.00	8.51	8.00	1.06	1.00	2.23	2.00	0.90	1.33	48.00	9833				
6.62	0.85	0.82	9.38	9.00	8.10	8.00	1.28	1.00	2.17	2.00	2.17	—	—	51.50	10002			
1.62	1.03	0.82	10.46	9.00	9.36	8.00	1.10	1.00	1.02	1.00	1.02	—	—	42.00	9791			
1.82	1.05	0.82	10.40	9.00	9.06	8.00	1.34	1.00	2.02	2.00	2.02	—	—	41.60	9804			
1.97	1.01	0.82	10.08	10.00	9.42	9.00	0.66	1.00	3.00	3.00	3.00	—	—	—	9754			
4.07	0.89	0.82	9.76	9.00	8.84	8.00	0.92	1.00	4.01	4.00	4.01	—	—	52.00	9428			
1.35	0.95	0.82	9.50	8.00	8.08	7.00	1.42	1.00	0.97	1.00	0.97	—	—	—	9868			
4.27	0.98	0.82	9.82	9.00	8.82	8.00	1.00	1.00	*3.79	4.00	3.79	—	—	46.00	9568			
1.35	1.13	0.82	9.26	9.00	8.02	8.00	1.24	1.00	2.00	2.00	0.60	1.40	39.85	9555				
1.65	0.90	0.82	10.33	9.00	9.11	8.00	1.22	1.00	1.89	2.00	1.89	—	—	43.50	9860			
4.00	1.05	0.82	10.91	10.00	9.49	9.00	1.42	1.00	3.71	3.00	3.71	—	—	48.00	9914			
7.10	1.90	1.65	14.61	12.50	*11.45	12.00	3.16	0.50	2.01	2.00	2.01	—	—	54.00	9576			
5.67	0.81	0.82	10.08	8.50	8.66	8.00	1.90	0.50	2.19	2.00	2.19	—	—	45.00	10006			
4.42	1.12	0.82	11.03	8.50	9.13	8.00	1.30	0.50	2.36	2.00	2.33	—	—	44.00	9798			
2.80	1.55	1.65	10.27	8.50	8.63	8.00	1.64	0.50	2.28	2.00	2.28	—	—	54.50	9780			
5.25	1.53	1.65	10.66	8.50	9.06	8.00	1.60	0.50	2.28	2.00	2.28	—	—	49.60	9770			
10.02	1.59	1.65	11.01	8.50	9.13	8.00	1.88	0.50	2.24	2.00	2.24	—	—	50.42	9577			
2.00	1.05	0.82	9.69	8.50	8.49	8.00	1.20	0.50	*3.13	4.00	3.13	—	—	53.00	970			
2.72	0.89	0.82	8.87	7.50	7.57	7.00	1.30	0.50	1.05	1.00	1.05	—	—	40.00	9797			
2.27	1.10	0.82	9.18	7.50	7.48	7.00	1.70	0.50	1.03	1.00	1.03	—	—	40.00	9800			
2.27	0.87	0.82	10.14	7.50	8.80	7.00	1.31	0.50	1.15	1.00	1.15	—	—	39.00	9767			
1.95	1.90	1.65	10.97	9.00	9.67	9.00	1.30	—	1.12	1.00	1.12	—	—	50.00	9549			
4.27	2.20	1.65	10.52	9.00	9.04	9.00	1.48	—	1.72	1.00	1.72	—	—	48.50	9796			
3.15	1.97	1.65	11.10	9.00	9.46	9.00	1.64	—	1.33	1.00	1.33	—	—	48.35	9905			
2.30	0.85	0.82	9.18	8.00	8.04	8.00	1.14	—	*3.69	4.00	3.69	—	—	51.00	970			
2.00	1.07	0.82	10.20	8.00	9.00	8.00	1.20	—	4.51	4.00	4.51	—	—	55.00	9765			
1.50	1.63	0.82	9.95	8.00	8.70	8.00	1.16	—	2.42	1.00	2.42	—	—	38.00	9796			
2.00	0.95	0.82	9.18	8.00	*7.62	8.00	1.56	—	1.19	1.00	1.19	—	—	44.00	988			
1.15	1.76	1.65	9.76	8.00	8.52	8.00	1.24	—	2.36	2.00	2.36	—	—	55.00	9886			
2.00	1.85	1.65	9.57	8.00	8.35	8.00	1.12	—	2.14	2.00	2.14	—	—	52.00	957			
2.85	1.75	1.65	8.99	8.00	7.87	8.00	1.22	—	2.36	2.00	2.36	—	—	52.50	9907			
1.55	1.91	1.65	11.03	9.00	8.91	8.00	2.12	1.00	2.03	2.00	2.03	—	—	—	9888			

\*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand	Sample Taken From
	THE CENTRAL CHEMICAL COMPANY, HAGERSTOWN, MD.	
9911	Excelsior, -----	E. S. Thomas, Holsopple, -----
9534	Fish Compound and Potash, -----	N. G. Adams, Paxanos, -----
9902	Grain and Grass Grower, -----	Lloyd Hay, Myersdale, -----
	THE COE-MORTIMER COMPANY, SUB- SIDIARY OF THE AMERICAN AGRI- CULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
9971	E. Frank Coe's New England Special, -----	Brown & Rea, Fairmount, -----
9665	E. Frank Coe's Western New Yorker, -----	Clinton Gerber, Cressona, -----
9675	E. Frank Coe's Western New Yorker, -----	Adam Hebbeler, Tower City, -----
	COLUMBIA GUANO COMPANY, ALLIED WITH F. S. ROYSTER GUANO COM- PANY, BALTIMORE, MD.	
9605	Columbia Marvel Guano, -----	Honeybrook Township Grange, Honey- brook.
9670	Columbia Marvel Guano, -----	J. A. Wert, Rock, -----
9528	Columbia Soluble Guano, -----	Honeybrook Township Grange, Honey- brook.
	THE CONSUMERS CHEMICAL COR- PORATION, AFFILIATED WITH VIR- GINIA-CAROLINA CHEMICAL COM- PANY, NEW YORK, N. Y.	
9926	Little Prince Brand, -----	W. L. Wolfe, Booneville, -----
9847	Victor Brand, -----	B. F. Kennedy, Pleasant Mount, -----
	DUBOIS FERTILIZER WORKS, INC., DUBOIS, PA.	
9701	DuBois Corn Special, -----	J. M. Hogland & Co., Sharon, -----
	EUREKA CHEMICAL COMPANY, BAL- TIMORE, MD.	
10004	Eureka Farmers' Favorite, -----	Bentleyville Hardware Co., Bentleyville, -----
9719	Eureka Farmers' Favorite, -----	McFarland Supply Co., Greensburg, -----
9813	Eureka Fish and Potash, -----	Frank Rees, Phoenixville, -----
9690	Eureka Fish and Potash, No. 1, -----	W. H. Nesbit, McConnellsburg, -----
9474	Eureka Grain and Grass, -----	Ammon Hetrick, Beavertown, -----
9812	Eureka Grain and Grass, -----	Frank Rees, Phoenixville, -----
	GRIFFITH & BOYD CO., BALTIMORE, MD.	
9407	Cereal Plant Food, -----	John I. Clay, Annville, -----
9483	Cereal Plant Food, -----	Hartley & Blaine, Turbotville, -----
9865	Cereal Plant Food, -----	I. M. Jamison, McCalistersville, -----
9406	Farmers Queen, -----	John I. Clay, Annville, -----
9941	Fish, Bone and Potash, -----	D. C. Rouck, New Holland, -----
9623	Peerless Fertilizer, -----	F. E. Bailey, Northbrook, -----
9942	Peerless Fertilizer, -----	D. C. Rouck, New Holland, -----
9456	Reliable Crop Grower, -----	J. T. Beckwith, Port Matilda, -----
9405	Special Peerless Guano, -----	John I. Clay, Annville, -----
	S. M. HESS & BROTHER, INC., SUB- SIDIARY OF THE AMERICAN AGRI- CULTURAL CHEMICAL COMPANY, PHILADELPHIA, PA.	
9532	Ammoniated Super Phosphate, -----	O. C. Hubbard, Catawissa, -----
9467	Fish and Potash Manure, -----	Buffalo Valley Farmers & Consumers Cor- poration, Lewisburg, -----
9429	Keystone Phosphate, -----	Geo. H. Baker, Valencia, -----

#### FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.										POTASH.					
	NITRO-GEN.			Total.				Available.			Insoluble.			Present as muriate.		
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Selling price per ton at place of selection.	Chemist's number.
1.87	1.70	1.65	10.78	8.50	9.16	8.00	1.62	0.50	4.62	4.00	4.62	-----	55.75	9.1		
6.42	1.25	1.04	9.89	8.50	8.81	8.00	1.08	0.50	1.37	1.00	1.37	-----	43.50	953		
5.30	1.78	1.65	13.59	-----	12.53	12.00	1.06	-----	1.88	2.00	1.88	-----	52.50	99		
1.35	1.02	0.82	9.50	9.00	8.78	8.00	0.72	1.00	2.07	2.00	2.07	-----	41.60	9.7		
1.92	1.25	0.82	9.06	9.00	8.26	8.00	0.80	1.00	4.15	4.00	4.15	-----	48.25	960		
4.32	1.25	0.82	8.87	9.00	8.19	8.00	0.68	1.00	4.01	4.00	4.01	-----	50.00	887		
1.62	1.21	0.82	10.83	9.50	9.53	9.00	1.00	0.50	3.42	3.00	3.42	-----	46.16	9.0		
2.25	1.27	0.82	10.84	9.50	9.58	9.00	1.23	0.50	3.04	3.00	3.04	-----	48.00	967		
2.37	1.85	1.65	10.01	8.50	8.55	8.00	1.16	0.50	2.16	2.00	2.16	-----	48.66	952		
3.90	1.05	0.82	10.27	10.00	9.15	9.00	1.12	1.00	3.71	3.00	3.71	-----	47.80	902		
3.40	1.05	1.65	11.99	11.00	10.87	10.00	1.12	1.00	2.02	2.00	1.50	0.52	39.00	084		
8.17	0.86	0.82	9.67	9.00	8.51	8.00	1.16	1.00	2.34	1.50	2.34	45.00	970			
4.82	1.90	1.64	9.38	8.50	8.38	8.00	1.00	0.50	2.38	2.00	2.38	-----	60.50	1000		
1.85	1.71	1.64	9.06	8.50	8.26	8.00	0.80	0.50	1.90	2.00	1.90	-----	54.00	971		
1.85	0.45	0.41	9.06	8.50	8.66	8.00	1.00	0.50	2.22	2.00	2.22	-----	41.00	987		
2.17	0.62	0.41	10.14	8.50	9.10	8.00	1.94	0.50	1.16	1.00	1.16	-----	35.95	939		
3.37	0.70	0.82	8.73	8.50	8.07	8.00	0.66	0.50	1.90	2.00	1.90	-----	42.00	947		
1.40	0.93	0.82	9.89	8.50	9.03	8.00	0.86	0.50	2.00	2.00	2.00	-----	45.00	981		
9.77	0.89	0.82	7.99	9.00	7.69	8.00	0.30	1.00	2.22	2.00	2.22	-----	43.00	940		
9.10	0.96	0.82	8.55	9.00	8.19	8.00	0.36	1.00	2.03	2.00	2.03	-----	43.00	918		
2.15	1.05	0.82	8.61	9.00	8.13	8.00	0.48	1.00	1.71	2.00	1.71	-----	39.00	980		
7.22	0.80	0.82	10.05	10.00	9.51	9.00	0.54	1.00	3.37	3.00	3.37	-----	47.76	940		
6.15	1.59	1.50	8.55	8.00	7.43	7.00	1.12	1.00	2.12	2.00	2.12	-----	45.00	904		
3.70	0.58	0.41	9.06	9.00	8.08	8.00	0.98	1.00	2.01	2.00	2.01	-----	42.00	962		
5.50	1.33	0.41	9.06	9.00	8.12	8.00	0.94	1.00	2.98	2.00	2.98	-----	40.00	994		
3.75	0.89	0.82	8.74	9.00	8.22	8.00	0.52	1.00	1.25	1.00	1.25	-----	40.85	945		
5.82	0.53	0.41	9.50	9.00	8.84	8.00	0.66	1.00	1.04	1.00	1.04	-----	37.00	940		
3.35	1.70	1.65	9.25	9.00	8.27	8.00	0.98	1.00	2.32	2.00	2.32	-----	-----	95		
3.87	1.61	1.65	9.89	9.00	8.85	8.00	1.04	1.00	3.16	2.00	3.16	-----	54.00	940		
2.20	0.88	0.82	9.95	9.00	8.59	8.00	1.36	1.00	1.03	1.00	1.03	-----	43.00	940		

TABLE I.—COMPLETE

Chemist's number.

	Name of Manufacturer and Brand.	Sample Taken From—
9663	Keystone Phosphate, -----	Samuel Buffington, Sacramento, -----
9776	Keystone Phosphate, -----	Stewart T. Herman, Hellertown, -----
9774	Special Compound, -----	Stewart T. Herman, Hellertown, -----
9461	Wheat and Grass Manure, -----	C. H. Emerick, Centre Hall, -----
9775	Wheat and Grass Manure, -----	Stewart T. Herman, Hellertown, -----
9921	Wheat and Grass Manure, -----	H. M. Stomin, Loganton, -----
	M. P. HUBBARD COMPANY, INC., BALTIMORE, MD.	
9536	Hubbard's Big Jim Compound, -----	E. C. Mengle, Liverpool, -----
9510	Hubbard's Excelsior, -----	Mackey & Yerkes, Oxford, -----
9539	Hubbard's Excelsior, -----	E. C. Mengle, Liverpool, -----
9964	Hubbard's Fish, Phosphate and Potash, -----	Willis C. Herr, Strasburg, -----
9512	Hubbard's Fish, Phosphate and Potash, -----	Mackey & Yerkes, Oxford, -----
9535	Hubbard's Good and Cheap Compound, -----	E. C. Mengle, Liverpool, -----
9858	Hubbard's Old Economy, Best for the Money, -----	F. A. Bingaman, Port Treverton, -----
9965	Hubbard's Old Economy, Best for the Money, -----	Willis C. Herr, Strasburg, -----
	THE HUBBARD FERTILIZER COMPANY, BALTIMORE, MD.	
9967	Hubbard's English Compound, -----	E. B. Fritz & Sons Co., Quarryville, -----
9491	Hubbard's Farmers I. X. L., -----	S. R. Kline, Benton, -----
9726	Hubbard's Farmers I. X. L., -----	D. Aug. Swope, Myerstown, -----
9475	Hubbard's Fish Mixture, -----	J. W. Klingler, Middle Creek, -----
9725	Hubbard's Fish Mixture, -----	D. Aug. Swope, Myerstown, -----
9993	Hubbard's Fish and Potash Mixture, -----	J. E. Crisman, South Fork, -----
9875	Hubbard's Money Maker Fertilizer, -----	Kamerer Hardware Co., Lehighton, -----
9492	Hubbard's 1-8-3 Fertilizer, -----	S. R. Kline, Benton, -----
9668	Hubbard's 1-8-3 Fertilizer, -----	Geo. Seltzer, Orwigsburg, -----
9651	Hubbard's Standard Phosphate, -----	L. M. Blackwell, Ransom, -----
	INTERNATIONAL AGRICULTURAL COR- PORATION, INC., BUFFALO FERTI- LIZER WORKS, BUFFALO, N. Y.	
9705	I. A. C. One Ten Two, -----	Jas. Chase, Albion, -----
9712	I. A. C. Victory, -----	Bell Brothers, West Middlesex, -----
	KEYSTONE BONE FERTILIZER CO., PHILADELPHIA, PA.	
9497	Keystone Excelsior Wheat Grower, -----	S. F. Rarig, Catawissa, -----
9887	Keystone Excelsior Wheat Grower, -----	P. K. Smith, Nescopeck, -----
9747	Keystone Excelsior Wheat Grower, -----	A. D. Trexler's Sons, Trexler, -----
9498	Keystone General Manure, -----	S. F. Rarig, Catawissa, -----
9496	Keystone Grain and Grass Mixture, -----	S. F. Rarig, Catawissa, -----
9746	Keystone Grain and Grass Mixture, -----	A. D. Trexler's Sons, Trexler, -----
9636	Keystone Grain and Grass Manure, -----	I. G. Williams, Lake Ariel, -----
9750	Keystone Royal Corn and Potash Manure, Revised, -----	Albright & Schwoyer, Kempton, -----
9678	Keystone Royal Corn and Potato Manure, -----	Fred. Nester, New Ringgold, -----
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.	
9643	Grangers Best Mixture, -----	J. E. Streeter, Clark Summit, -----
	LANCASTER BONE FERTILIZER COM- PANY, LANCASTER, PA.	
9935	Potato, Fruit and Vegetable, -----	A. L. Stevely, New Providence, -----

## FERTILIZERS—Continued.

Moisture.	NITRO-GEN.		PHOSPHORIC ACID.						POTASH.						Chemist's number.	
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.		Guaranteed.		Present as muriate.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as sulphate.	Selling price per ton at place of selection.				
0.80	1.13	0.82	8.61	9.00	*7.55	8.00	1.06	1.00	1.05	1.00	1.05	1.00	1.05	1.00	40.00	9663
1.77	0.95	0.82	9.12	9.00	8.16	8.00	0.96	1.00	1.12	1.00	1.12	1.00	1.12	1.00	42.00	9776
1.37	0.85	0.82	8.97	9.00	8.11	8.00	0.86	1.00	*3.62	4.00	3.62	4.00	3.62	4.00	50.00	9774
5.05	0.85	0.82	9.82	9.00	8.42	8.00	1.40	1.00	2.01	2.00	2.01	2.00	2.01	2.00	42.00	9461
1.67	0.79	0.82	9.12	9.00	8.10	8.00	1.02	1.00	2.00	2.00	2.00	2.00	2.00	2.00	44.00	9775
5.50	0.95	0.82	9.44	9.00	8.40	8.00	1.04	1.00	2.01	2.00	2.01	2.00	2.01	2.00	45.00	9921
3.20	0.47	0.41	9.40	9.00	8.84	8.00	0.56	1.00	1.24	1.00	0.40	0.84	37.50	956		
3.00	1.00	0.82	9.69	9.00	8.69	8.00	1.60	1.00	*1.17	2.00	1.17	1.17	1.17	1.17	45.00	9510
6.37	0.76	0.82	8.80	9.00	8.18	8.00	0.62	1.00	2.56	2.00	2.56	2.00	2.56	2.00	42.50	9519
2.37	0.95	0.82	8.36	8.00	7.48	7.00	0.88	1.00	3.69	3.00	3.69	3.00	3.69	3.00	49.50	9964
2.55	0.85	0.82	8.13	8.00	7.31	7.00	0.82	1.00	3.00	2.00	3.00	2.00	3.00	2.00	45.00	9512
6.82	1.00	0.82	8.74	9.00	7.98	8.00	0.76	1.00	1.67	1.00	0.30	0.77	40.50	9555		
2.00	0.50	0.41	8.93	9.00	8.17	8.00	0.76	1.00	2.33	2.00	2.33	2.00	2.33	2.00	41.00	9858
2.72	0.66	0.41	10.91	9.00	10.09	8.00	0.82	1.00	2.28	2.00	0.50	1.78	42.00	9965		
2.20	1.00	0.82	9.95	9.00	9.17	8.00	0.78	1.00	1.12	1.00	1.12	1.00	1.12	1.00	39.00	9967
6.45	1.70	1.64	9.95	9.00	9.21	8.00	0.74	1.00	2.98	2.00	2.98	2.00	2.98	2.00	47.50	9491
2.30	1.63	1.64	9.44	9.00	7.94	8.00	1.50	1.00	2.42	2.00	2.42	2.00	2.42	2.00	50.00	9726
7.15	0.83	0.82	11.24	9.00	10.02	8.00	1.22	1.00	*0.71	1.00	0.71	1.00	0.71	1.00	40.55	9725
2.30	1.13	0.82	9.63	9.00	8.03	8.00	1.60	1.00	1.05	1.00	1.05	1.00	1.05	1.00	37.75	9903
3.62	0.45	0.41	10.14	9.00	8.54	8.00	1.60	1.00	2.20	2.00	2.20	2.00	2.20	2.00	66.00	9875
2.80	1.67	1.64	10.52	9.00	9.46	8.00	1.06	1.00	4.94	5.00	4.94	5.00	4.94	5.00	44.50	9492
8.30	0.89	0.82	9.69	9.00	8.65	8.00	1.04	1.00	3.16	3.00	3.16	3.00	3.16	3.00	42.75	9668
3.50	0.97	0.82	9.44	9.00	8.86	8.00	0.58	1.00	2.88	3.00	2.88	3.00	2.88	3.00	46.00	9651
3.45	1.60	1.64	11.48	9.00	10.08	8.00	1.40	1.00	*2.32	3.00	2.32	3.00	2.32	3.00		
2.07	0.88	0.80	11.54	11.00	10.72	10.00	0.82	1.00	2.13	2.00	2.13	2.00	2.13	2.00	36.00	9765
2.22	1.10	0.80	11.67	9.00	9.55	8.00	2.12	1.00	1.52	1.00	1.52	1.00	1.52	1.00	41.00	9712
11.60	1.15	0.82	9.89	9.00	8.87	8.00	1.02	1.00	*3.47	4.00	3.47	4.00	3.47	4.00	50.50	9497
2.32	1.29	0.82	10.01	9.00	8.23	8.00	1.78	1.00	4.08	4.60	4.08	4.60	4.08	4.60		9887
2.30	1.24	0.82	10.27	9.00	9.17	8.00	1.10	1.00	*2.66	4.00	2.66	4.00	2.66	4.00	51.00	9747
9.17	1.03	0.82	9.38	9.00	8.52	8.00	0.76	1.00	2.36	2.00	2.36	2.00	2.36	2.00	44.50	9498
3.45	1.20	0.82	8.74	8.00	7.74	7.00	1.00	1.00	1.40	1.00	1.40	1.00	1.40	1.00	40.00	9496
1.45	1.28	0.82	8.80	8.00	7.86	7.00	0.91	1.00	1.93	1.00	1.93	1.00	1.93	1.00	40.00	9636
2.65	1.25	0.82	10.08	8.00	8.62	7.00	1.46	1.00	1.07	1.00	1.07	1.00	1.07	1.00		
2.32	1.64	1.65	10.78	9.00	9.14	8.00	1.64	1.00	*3.25	4.00	3.25	4.00	3.25	4.00	56.00	9750
1.82	2.00	1.65	9.50	9.00	8.00	8.00	1.50	1.00	4.55	4.00	4.55	4.00	4.55	4.00	57.00	9678
3.95	1.80	1.65	9.44	8.00	9.06	8.00	0.38	-----	2.62	2.00	2.62	2.00	2.62	2.00	38.00	9643
2.57	1.10	0.82	10.27	9.00	8.93	8.00	1.34	1.00	1.54	1.00	1.54	1.00	1.54	1.00	34.00	9925

\*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
9578	LEBANON FERTILIZER WORKS, LEB- ANON, PA.	
9672	Levan's Farmers Favorite, 1-8-2, -----	Solomon & Waltz, Antes Fort, -----
	Levan's Special Tobaeo Compound, 2-10-4, -----	Harry Keefer, Pine Grove, -----
9891	LISTERS AGRICULTURAL CHEMICAL WORKS, SUBSIDIARY OF THE AMER- ICAN AGRICULTURAL CHEMICAL CO., NEWARK, N. J.	
9464	Lister's Big Crop Grower, -----	Ralph Eroh, Weatherly, -----
9628	Lister's Fish Brand Fertilizer, -----	Henry Brouse, Winfield, -----
9451	Lister's Fish Brand Fertilizer, -----	Wm. H. Fritz, Berwyn, -----
9441	Lister's Golden Sheaf, -----	Harry Garbrick, Bellefonte, -----
9627	Lister's Special Wheat Fertilizer, -----	Morrow & Buxton, Valenela, -----
	Lister's U. S. Superphosphate, -----	Wm. H. Fritz, Berwyn, -----
9630	THE MAPES FORMULA & PERUVIAN GUANO CO., NEW YORK, N. Y.	
	The Mapes Grain Brand, -----	Yeakel & Huzzard, Norristown, -----
9734	THE MARTIN FERTILIZER CO., PHILADELPHIA, PA.	
	Martin's Extra Sure Grower, -----	Clarence Shellenberger, Fleetwood, -----
9480	THE MILLER FERTILIZER COMPANY, BALTIMORE, MD.	
	Miller's Club Brand, -----	H. L. Ort, Pennsdale, -----
9803	G. OBER & SONS COMPANY, BALTI- MORE, MD.	
9753	Ober's Farmers Mixture, -----	A. L. Bargstresser, Hellertown, -----
9930	Ober's Farmers Mixture, -----	E. D. Greenawalt, Albany, -----
9872	Ober's Farmers Mixture, -----	N. E. Shober, Garret, -----
9818	Ober's Golden Top Wheat Grower, -----	L. A. Steigerwalt, Andreas, -----
9755	Ober's Golden Top Wheat Grower, -----	Harvey L. Moses, Chester Springs, -----
9882	Ober's Golden Top Wheat Grower, -----	M. S. Spatts, Jacksonwold, -----
9870	Ober's Independent Mixture, -----	L. A. Steigerwalt, Andreas, -----
9876	Ober's Independent Mixture, -----	Wm. M. Atkinson, McVeytown, -----
9821	Ober's Independent Mixture, -----	D. H. Blocher & Co., Gettysburg, -----
9674	Ober's Red Seal Wheat Guano, -----	Harvey L. Moses, Chester Springs, -----
9819	Ober's Red Seal Wheat Guano, -----	Thos. Kuntzleman, Tower City, -----
9463	Ober's Sea Bird Guano, -----	Harvey L. Moses, Chester Springs, -----
9661	Ober's Soluble Ammoniated Super Phos- phate of Lime, -----	Harry Miller, Mifflinburg, -----
9972	Ober's Special Plant Food, -----	Clarence Maurer, Rough & Ready, -----
9525	Ober's Swan-E Fish Guano, -----	
	PATAPSCO GUANO COMPANY, SUBSI- DIARY OF THE AMERICAN AGRICUL- TURAL CHEMICAL COMPANY, BAL- TIMORE, MD.	D. H. Blocher & Co., Gettysburg, -----
		Harvey G. Spencer, Cochranville, -----
9469	Patapsco Grain and Grass Producer, -----	
9409	Patapsco Guano, -----	George Sehell, Vicksburg, -----
9436	Patapsco Tobacco and Potato Fertilizer, Revised.	Geo. Speck, Jonestown, -----
9646	Patapsco Vegetable and Corn Fertilizer, -----	J. J. Kennedy, Zelienople, -----
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	Oscar Vanbusker, Clark Summit, -----
9943	Levering's Harvest Queen, -----	J. B. Bucher, Ephrata, -----

## FERTILIZERS—Continued.

Moisture.	NITRO-GEN.												PHOSPHORIC ACID.						POTASH.						Chemist's number.
	Found.			Guaranteed.			Total.			Available.			Insoluble.			Found.			Guaranteed.			Present as muriate.			
	Found.	Guaranteed.	Found.	Found.	Guaranteed.	Found.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as sulphate.	Present as sulphate.	Selling price per ton at place of selection.					
9.05 4.40	0.79 1.67	0.82 1.65	9.69 11.80	9.00 11.60	8.75 10.82	8.00 10.00	0.94 0.98	1.00 1.00	2.13 4.33	2.06 4.00	1.60 4.33	0.53 4.33	44.00 60.00	9578 9672											
1.52 3.22 2.50 8.60 5.80 3.30	1.93 0.89 0.82 0.90 1.77 1.50	1.65 10.59 10.84 9.25 1.65 1.65	10.40 10.00 10.00 9.00 9.00 10.46	9.00 9.47 9.40 8.25 8.84 9.00	8.50 9.00 9.44 8.00 8.00 8.86	8.00 9.00 1.44 1.00 0.54 8.00	1.90 1.12 1.00 1.00 1.00 1.60	1.00 1.00 1.00 1.00 1.00 1.00	5.56 2.10 1.86 1.06 2.90 *1.28	4.00 2.00 2.96 1.06 3.00 2.00	5.56 2.10 1.86 1.06 2.90 1.28	44.00 60.00	9578 9672												
6.92	1.73	1.65	11.74	10.00	*7.44	8.00	4.30	2.00	2.50	2.00	2.50	2.50	53.00	9630											
2.57	1.00	0.82	9.06	9.00	*7.74	8.00	1.32	1.00	3.18	2.00	3.18	3.18	42.00	9724											
4.87	0.49	0.41	8.10	8.50	*7.44	8.00	0.66	0.59	1.80	2.00	1.80	1.80	42.00	9480											
2.67 2.25 4.32 2.99 2.65 1.75 2.37 1.90 1.57 1.00 1.85 4.85 10.10 7.72	1.01 0.82 1.02 1.03 0.90 0.88 1.01 0.82 1.02 0.82 1.06 1.70 1.73 1.77	0.82 0.82 0.82 0.82 0.82 0.82 0.82 0.82 0.82 0.82 0.82 1.65 1.65 1.65	11.42 11.16 10.33 10.97 10.65 10.46 10.20 10.00 10.52 9.00 9.82 12.69 13.07 10.84	10.00 10.00 10.00 10.00 10.00 10.00 10.00 9.60 9.76 8.96 9.00 12.00 13.00 11.00	10.50 10.48 9.87 10.15 10.01 10.02 9.60 9.00 8.00 8.00 11.96 12.31 10.06	9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 8.00 8.00 12.00 12.00 10.00	0.92 0.68 0.16 0.82 0.64 0.44 0.60 1.00 0.70 0.86 1.00 0.76 0.76 0.78	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	2.03 2.38 2.97 2.97 3.43 3.01 3.38 3.38 1.33 1.29 2.33 2.00 4.81	2.00 2.00 2.00 2.00 3.00 3.00 3.00 3.00 1.00 1.00 2.33 2.00 4.00	2.03 2.38 2.97 2.97 3.43 3.01 3.38 3.38 1.33 1.29 2.33 2.00 4.81	48.00 46.00 45.72 45.00 53.00 3.01 42.00 42.00 1.33 1.20 56.00 4.60 52.00	9803 9753 9710 9872 9818 9755 9832 9870 9776 9876 9871 9674 9819 9463												
2.57 2.00 4.70	1.75 1.76 1.58	1.65 1.65 1.65	11.89 10.46 10.75	9.00 10.00 10.00	8.83 9.00 9.89	8.00 9.00 9.00	3.06* 0.46 0.86	1.00 1.00 1.00	2.44 5.17 3.01	2.00 5.00 3.00	2.44 5.17 3.01	2.44 5.17 5.20	9661 9972 9525												
4.82 8.12 4.60	0.78 *1.25 1.60	0.82 1.65 1.65	9.98 10.78 9.50	9.00 9.00 9.00	9.06 9.00 8.80	8.00 8.00 8.00	0.92 1.60 0.70	1.00 1.00 1.00	*3.80 2.50 3.41	4.00 2.00 3.00	3.80 2.50 3.41	3.80 2.50 3.41	51.00 9409 9426	9469											
3.25	2.10	1.65	9.69	9.00	8.79	8.00	0.90	1.00	*3.43	4.00	3.43	3.43	49.40	9616											
8.05	0.98	0.82	10.08	9.00	9.14	8.00	0.94	1.00	2.24	2.00	2.24	2.24	43.25	9948											

\*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
9449	Piedmont Insula Fish Guano, PITTSBURGH PROVISION & PACKING CO., PITTSBURGH, PA.	J. E. Dubbs, Bellefonte, -----
10005	Keystone Fertilizer, RASIN-MONUMENTAL COMPANY, SUBSIDIARY OF THE VIRGINIA-CAROLINA CHEMICAL CO., BALTIMORE, MD.	W. H. Dunlap, Jr., Canonsburg, -----
9494	Rasin's Best Grain and Grass Formula, -----	H. B. Low & Son, Orangeville, -----
5989	Rasin's Best Potato Formula, -----	H. H. Button, Wellsboro, -----
9867	Rasin's Royal Fish, Bone and Potash, -----	Walter Book, Port Royal, -----
9500	Rasin's Universal Crop Manure, -----	H. H. Button, Wellsboro, -----
9486	William Penn Crop Grower, -----	H. A. Snyder, Strawberry Ridge, -----
9609	William Penn Crop Grower, -----	W. H. Walker & Co., Kennett Square, -----
	READING BONE FERTILIZER CO., READING, PA.	
9800	Reading One-Eight and Five, -----	August Boock, Conyngham, -----
9640	Reading One-Eight and Five, -----	G. B. Carrell, New Foundland, -----
	READING CHEMICAL CO., READING, PA.	
9466	Reading Complete Fertilizer, -----	Francis Baker, Lewisburg, -----
9562	Reading Complete Fertilizer, -----	E. E. Blackburn, Cessna, -----
9917	Reading Farmers Choice, -----	C. E. Frazier, Mill Hall, -----
9615	Reading Tankage & Potash Mixture, -----	John R. Hampton, Norristown, -----
	ROBERT A. REICHARD, ALLENTOWN, PA.	
9802	Reichard's Surpass Phosphate, -----	J. P. Kunsman, Hellertown, -----
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
9575	Royer's Cuckoo Guano, -----	Glossner Implement Co., Lock Haven, -----
9954	Royer's Cuckoo Guano, -----	H. E. Mullen, Christiana, -----
9450	Royer's Cuckoo Guano, -----	J. S. Waite & Co., Bellefonte, -----
9879	Royer's Dreadnought Guano, -----	Ed. Fritz, Andreas, -----
9458	Royer's Economy Guano, -----	J. K. Mattern, Julian, -----
9408	Royer's Excello Guano, -----	David Reigel, Ono, -----
9844	Royer's Fish-Flesh and Fowl, -----	J. W. Redd, Dyberry, -----
9955	Royer's Seeding Down Guano, -----	H. E. Mullen, Christiana, -----
9697	Royer's Seeding Down Guano, -----	Shippensburg Elevator Co., Shippensburg, -----
9748	Royer's Seeding Down Guano, -----	A. D. Trexler's Sons, Trexler, -----
	CHARLES H. SEIBERT, MYERSTOWN, PA.	
9746	Pigeon Manure Fertilizer Grade No. 2, -----	Chas. H. Seibert, Myerstown, -----
	SHARON RENDERING & FERTILIZER WORKS, SHARON, PA.	
9702	Enterprise Phosphate, -----	Chas. Woge & Son, Sharon, -----
	M. L. SHOEMAKER & CO., INC., PHILADELPHIA, PA.	
9527	Swift Sure Super-Phosphate for General use 3-8-3.	M. L. Shoemaker & Co., Inc., Philadelphia.

**FERTILIZERS—Continued.**

\*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From
	THE SOUTHERN FERTILIZING COMPANY, BALTIMORE, MD.	
9606	Farmers Choice, -----	A. A. Haines, Honeybrook, -----
9752	Royal Crop Grower, -----	Albright & Schwoyer, Kempton, -----
	SWIFT & COMPANY, BALTIMORE, MD.	
9708	Swift's Champion Wheat and Corn Grower, -----	Fisher Brothers, Ruhland, -----
9826	Swift's Champion Wheat and Corn Grower, -----	Adam Sehmehl, North Wales, -----
9579	Swift's Reliable Grain Fertilizer, -----	Owlett & White, Galeton, -----
9827	Swift's Reliable Grain Fertilizer, -----	Adam Sehmehl, North Wales, -----
9828	Swift's Special Corn and Wheat Grower, -----	Adam Sehmehl, North Wales, -----
9708	Swift's Super Phosphate, -----	Seymore Hood, Cambridge Springs, -----
	I. P. THOMAS & SON COMPANY, PHILADELPHIA, PA.	
9883	General Use Fertilizer 2-8-2, -----	Joseph Lesser, Andrea, -----
9529	General Use Fertilizer 2-8-2, -----	C. W. Thomas, Danville, -----
9522	Grain Special, -----	T. M. Griffith & Son Downingtown, -----
9998	Grain Special, -----	King Brothers, Uniontown, -----
9432	Grain Special, -----	Parnassus Hardware Co., Parnassus, -----
9741	Grain Special, -----	E. S. Riser, Palmyra, -----
9772	Improved Fertilizer, -----	John D. Detweiler, Perkasie, -----
9431	Superior Superphosphate, -----	Parnassus Hardware Co., Parnassus, -----
	F. W. TUNNELL & COMPANY, INC., PHILADELPHIA, PA.	
9501	Fall Crop Grower, -----	H. A. Mendenhall, Tougheston, -----
9504	Potash Grain Grower, -----	Edw. Brinton & Son, West Chester, -----
9424	Potash Grain Grower, -----	Lorenza Laudermile, Lebanon, -----
	THE J. E. TYGERT COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., PHILADELPHIA, PA.	
9724	Standard Fertilizer, -----	E. Myer, Fredericksburg, -----
9928	Standard Fertilizer, -----	Wolfe & Huffman, Watsontown, -----
9619	Tyger's Golden Harvest Phosphate, -----	Howard F. Brown, Chester Heights, -----
9873	Tyger's Vietor Crop Grower, -----	Ino. Berger, Lehighton, -----
9743	Tyger's Vietor Crop Grower, -----	Ed. E. Ream, Palmyra, -----
9929	Tyger's Vietor Crop Grower, -----	Wolfe & Huffman, Watsontown, -----
	VIRGINIA CAROLINA CHEMICAL CO., OF DELAWARE, BALTIMORE, MD.	
9411	V. C. Best Grain & Grass Formula, -----	N. R. Yost, Myerstown, -----
9554	V. C. Champion Manure, -----	Roy Fletcher, Everett, -----
9415	V. C. Fish Bone & Potash, -----	N. R. Yost, Myerstown, -----
9908	V. C. Giant Grain & Clover Mixture, -----	H. P. Maurer, Boswell, -----
9785	V. C. Plow Brand, -----	George Itterly, Pen Argyl, -----
9787	V. C. Special Compound, -----	F. F. Harrison, Ewenboro, -----
9413	V. C. Special Compound, -----	N. R. Yost, Myerstown, -----
9986	V. C. Standard Grain Grower, -----	W. S. Suckling, Hollidaysburg, -----
	THE ROBERT A. WOOLDRIDGE COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
9612	Wooldridge's Ammoniated Phosphate, -----	Garfield Milhous, Mendenhall, -----
9471	Wooldridge's Surety Crop Grower, -----	E. W. Dersham, White Deer, -----
	YORK CHEMICAL WORKS, YORK, PA.	
9948	Dempwolf's Grain Special, -----	H. M. Stouffer, Leola, -----
9509	Dempwolf's Grain Special, -----	Thomas, Haines Co., Malvern, -----
9915	Dempwolf's Plow Brand, -----	A. T. Baird, Lock Haven, -----
9598	Dempwolf's Spring Special, -----	A. T. Baird, Lock Haven, -----
	Average, -----	

## FERTILIZERS—Concluded.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.						Selling price per ton at place of selection.	Chemist's number.	
			Total.			Available.		Insoluble.			Present as muriate.			Present as sulphate.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	
3.92	1.00	0.82	11.03	16.00	9.23	9.00	1.80	1.00	2.30	2.00	2.30	2.00	45.00	9606			
5.62	0.99	0.82	10.59	10.00	9.25	9.60	1.34	1.00	2.91	3.00	2.91	3.00	46.50	9752			
2.57	2.12	1.65	13.33	12.00	12.77	12.00	0.56	-----	1.85	2.00	0.90	0.95	62.00	9768			
2.50	1.80	1.65	13.46	12.00	12.62	12.00	0.84	-----	2.04	2.00	2.04	-----	55.25	9826			
6.22	0.80	0.82	8.51	8.00	*7.57	8.00	0.94	-----	1.16	1.00	1.16	-----	47.00	9579			
2.50	0.96	0.82	8.99	8.00	8.35	8.00	0.64	-----	1.32	1.00	1.32	-----	40.25	9827			
4.00	1.75	1.65	10.84	10.00	10.10	10.00	0.74	-----	4.12	4.00	4.12	-----	59.25	9828			
1.90	1.63	1.65	10.01	8.00	8.59	8.00	1.42	-----	2.00	2.00	0.80	1.29	49.00	9768			
1.12	*1.45	1.65	9.38	8.50	*7.80	8.00	1.58	0.50	2.10	2.00	2.10	-----	49.50	9529			
7.75	*1.44	1.65	8.95	8.50	*7.45	8.00	1.50	0.50	2.26	2.00	2.26	-----	49.00	9522			
2.32	0.88	0.82	9.89	8.50	8.61	8.00	1.28	0.50	2.24	2.00	2.24	-----	48.00	99.8			
4.50	0.8	0.82	9.50	8.50	8.20	8.00	1.30	0.50	2.16	2.00	2.16	-----	48.00	9432			
2.70	0.81	0.82	9.63	8.50	8.17	8.00	1.46	0.50	2.20	2.00	2.20	-----	48.00	9741			
0.75	0.95	0.82	9.76	8.50	8.60	8.00	1.16	0.50	2.26	2.00	2.26	-----	42.50	9741			
1.15	1.06	0.82	11.86	-----	9.86	10.00	2.00	-----	1.18	1.00	1.18	-----	39.00	9772			
1.57	0.85	0.82	8.61	7.50	7.23	7.00	1.38	0.50	1.17	1.00	1.17	-----	44.00	9431			
3.75	1.20	0.82	10.08	9.00	9.36	8.00	0.72	1.00	2.16	2.00	2.16	-----	45.00	9501			
4.12	0.90	0.82	9.50	8.00	8.42	7.00	1.08	1.00	1.07	1.00	1.07	-----	-----	9424			
4.42	0.93	0.82	9.12	8.00	8.12	7.00	1.00	1.00	1.72	1.00	1.72	-----	-----	-----	-----		
1.17	1.60	1.65	9.38	9.00	8.48	8.00	0.90	1.00	2.02	2.00	2.02	-----	-----	9724			
2.82	1.83	1.65	10.40	9.00	8.98	8.00	1.42	1.00	2.21	2.00	2.21	-----	46.50	9928			
3.45	1.20	0.82	10.40	9.00	9.40	8.00	1.00	1.00	*1.54	2.00	1.54	-----	47.75	9619			
2.00	0.97	0.82	10.01	9.00	9.09	8.00	0.92	1.00	3.92	4.00	3.92	-----	46.50	9873			
1.00	1.10	0.82	9.78	9.00	8.48	8.00	0.90	1.00	*3.78	4.00	3.78	-----	50.00	9743			
7.12	0.90	0.82	9.12	9.00	8.12	8.00	1.00	1.00	3.95	4.00	3.95	-----	46.00	9929			
2.45	1.67	1.65	11.48	11.00	10.30	10.00	1.18	1.00	4.01	4.00	4.01	-----	58.00	9411			
1.77	0.77	0.41	8.74	9.00	*7.68	8.00	1.06	1.00	0.88	1.00	0.88	-----	36.00	9554			
8.22	1.60	1.65	10.12	9.00	8.42	8.00	1.70	1.00	3.68	3.00	3.68	-----	53.00	9415			
1.80	1.74	1.65	14.86	13.00	13.36	12.00	1.50	1.00	2.07	2.00	2.07	-----	57.00	9785			
3.10	1.17	0.82	9.69	9.00	8.81	8.00	0.88	1.00	1.03	1.00	1.03	-----	39.00	9743			
2.42	1.22	0.82	10.84	9.00	9.80	8.00	1.04	1.00	1.22	1.00	1.22	-----	41.00	9707			
8.95	0.98	0.82	10.01	9.00	8.59	8.00	1.42	1.00	1.00	1.60	1.60	-----	40.00	9413			
5.45	1.02	0.82	9.29	8.19	8.00	1.10	1.10	1.00	2.01	2.00	2.01	-----	48.00	9986			
1.10	1.15	0.82	10.18	9.00	8.10	8.00	2.08	1.00	0.85	1.00	0.85	-----	41.00	9612			
3.45	0.92	0.82	10.79	10.00	10.45	9.00	0.34	1.00	3.11	3.00	3.11	-----	47.50	9471			
10.12	1.74	1.64	13.59	12.00	12.69	12.00	0.90	-----	2.10	2.00	2.10	-----	55.00	9948			
8.25	1.60	1.64	14.12	12.00	13.06	12.00	1.06	-----	2.04	2.00	2.14	-----	56.00	9509			
7.15	1.64	1.64	8.67	8.00	8.29	8.00	0.38	-----	2.09	2.00	2.00	-----	48.00	9715			
9.57	3.33	3.28	10.59	10.00	10.21	10.00	0.88	-----	4.34	4.00	4.34	-----	70.00	958			
3.69	1.26	-----	10.07	-----	8.90	-----	1.17	-----	2.33	-----	2.33	-----	-----	-----	-----		

\*Deficient.

TABLE NO. 11—NITROGEN AND PHOS-  
Including Dissolved Bones

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	ALLENTOWN MANUFACTURING CO., ALLENTOWN, PA.	
9777	Ameo Phosphate, -----	Allentown Manufacturing Co., Allentown,
9778	Quiek Return Phosphate, -----	Allentown Manufacturing Co., Allentown,
9779	Reliable Phosphate, -----	Allentown Manufacturing Co., Allentown,
	THE AMERICAN AGRICULTURAL CHEM- ICAL COMPANY, NEW YORK, N. Y.	
9900	Ammoniated Fertilizer AA, -----	H. L. Orr, Tyrone,
9517	Ammoniated Fertilizer AA, -----	Geo. B. Passmore & Brother, -----
9945	Ammoniated Fertilizer AA, -----	H. M. Stouffer & Son, Leola, -----
9991	Ammoniated Fertilizer AAA, -----	H. L. Orr, Tyrone, -----
9516	Ammoniated Fertilizer AAA, -----	Geo. B. Passmore & Brother, Oxford, -----
9585	Ammoniated Fertilizer AAAA, -----	W. J. Grover & Son, Newfield, -----
9850	Ammoniated Fertilizer AAAA, -----	B. Vansickel, Cortez, -----
9654	Bradley's Speelial Superior Compound, -----	D. Bedell, Ransom, -----
9653	Bradley's Trueker's Delight, -----	D. Bedell, Ransom, -----
9621	Josiah Cope's Exeelsior No. 2, -----	F. E. Bailey, Northbrook, -----
9541	W. S. Farmer's Pilieau Guano 1920, -----	E. O. Mengle, Liverpool, -----
9912	Ludlam's Ceerops Bono Manure, -----	Claude Davis, Windber, -----
9603	Ludlam's Ceerops Bono Manure, -----	Jacob Fleisher, Maryville, -----
9896	Ludlam's Ceerops Bono Manure, -----	West Salisbury Feed Co., West Salisbury, -----
9638	Nassau Ammoniated Potato Compound, -----	B. W. Bedell, Dalton, -----
9421	Nassau Buckwheat Speelial, -----	H. S. Lesher, Bernville, -----
9558	Nassau Buckwheat Speelial, -----	H. S. Moeh, Alum Bank, -----
9762	Nassau Common Sense Fertilizer Revised, -----	A. H. Fell, Danboro, -----
9487	Nassau Common Sense Fertilizer Revised, -----	D. H. Maust, Jerseytown, -----
9852	Patapseo Golden Crop Fertilizer Revised, -----	B. Vansickel, Cortez, -----
9485	Soluble Grain Mixture, -----	Hartley & Blaine, Turbotville, -----
9547	Soluble Grain Mixture, -----	G. R. Lutz, Lutzville, -----
9769	Whann's Chester Valley Liberty Brand Superphosphate A.	F. B. Hartzell Sons Co., Chalfont, -----
9922	Wheeler's Ammoniated Corn Phosphate, -----	Torenec DeLong, Loganton, -----
9694	Wooldridge's General Crop Grower, -----	Cyrus Brumbaugh, New Enterprise, -----
9728	Wooldridge's General Crop Grower, -----	G. J. B. Kaufman, Hamburg, -----
	THE AMERICAN AGRICULTURAL CHEM- ICAL COMPANY, THE POLLOCK FERTI- LIZER CO., BRANCH, BALTIMORE, MD.	
9685	Pollock's Ammoniated Fertilizer A, -----	H. O. Andrews, Mapleton Depot, -----
9864	Pollock's Ammoniated Fertilizer AA, -----	Earl Firsler, Richfield, -----
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
9861	American Grain Reliable Ammoniated Formula, -----	J. B. Robrer, Port Trevorton, -----
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
10010	Armour's 1-10-0, -----	A. M. Frederiek, Fairhaneec, -----
9580	Cereal Special No. 4, -----	Horn & Devling, Galeton, -----
9776	Grain Speelial, -----	F. B. Hartzell Sons Co., Chalfont, -----
	BAUGH & SONS COMPANY, PHILADEL- PHIA, PA.	
9659	Baugh's Grain and Grass Grower, -----	W. W. Hass, Pitman, -----
9545	Baugh's Grain and Grass Grower, -----	B. F. Horting, Newport, -----
9519	Baugh's Grain and Grass Grower, -----	E. H. Keen & Son, Parkesburg, -----
9837	Baugh's Peninsula Gram Producer, -----	J. A. Seguin, Creseco, -----
9835	Baugh's The Old Stand By Dissolved, Animal Base.	J. A. Seguin, Creseco, -----

PHORIC ACID FERTILIZERS,  
And Other Like Products.

Moisture.	NITROGEN.		PHOSPHORIC ACID.								Chemist's number.	
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Selling price per ton at place of selection.	
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.				
1.10	1.68	1.65	10.65	10.00	7.15	5.69	3.50	5.00	39 00	9777		
1.32	1.00	1.03	11.95	10.00	7.25	6.00	4.70	4.00	34 00	9778		
1.62	2.53	2.47	11.35	10.00	6.93	5.00	4.42	5.00	44 00	9779		
2.75	1.68	1.65	12.44	11.00	11.00	10.00	1.44	1.00	46 00	9990		
3.70	1.75	1.65	11.76	11.00	10.14	10.00	1.62	1.00	47 00	9517		
6.40	2.46	1.65	11.48	11.00	10.12	10.00	1.36	1.00	47 00	9945		
1.97	2.28	2.47	12.31	11.00	10.89	10.00	1.42	1.00	52 00	9991		
4.45	2.55	2.47	11.67	11.00	10.39	10.00	1.28	1.00	54 00	9516		
1.77	3.40	3.29	11.29	11.00	*9.77	10.00	1.52	1.00	51 00	9585		
1.89	3.65	3.29	12.63	11.00	11.39	10.00	1.24	1.00	38 00	9850		
1.76	2.25	1.65	13.90	11.00	11.38	10.00	2.52	1.00	36 50	9654		
2.27	3.71	3.29	12.76	11.00	11.70	10.00	1.06	1.00	48 25	9653		
8.07	1.50	1.65	13.39	11.00	11.83	10.00	1.56	1.00	50 00	9621		
3.90	1.18	0.82	9.57	9.00	8.49	8.00	1.68	1.00	36 00	9541		
0.62	1.07	0.82	9.63	9.00	*7.63	8.00	2.00	1.00	38 00	9912		
1.15	0.88	0.82	10.46	9.60	8.74	8.00	1.72	1.00	-----	9603		
2.00	0.80	0.82	8.89	9.00	8.62	8.00	0.78	1.00	31 00	9896		
2.72	2.99	2.47	12.73	11.00	11.17	10.00	1.56	1.00	38 00	9658		
4.07	0.99	0.82	9.89	9.00	9.07	8.00	0.82	1.00	36 00	9421		
1.57	1.08	0.82	9.89	9.00	7.95	8.00	1.94	1.00	36 25	9558		
0.75	*1.43	1.65	11.48	11.00	*9.80	10.00	1.68	1.00	42 50	9762		
3.15	1.70	1.65	12.12	11.00	10.30	10.00	1.82	1.00	-----	9487		
1.35	2.00	1.65	13.52	11.00	10.68	10.00	2.84	1.00	38 00	9852		
6.67	0.86	0.82	9.89	9.00	8.59	8.00	1.30	1.00	37 60	9485		
1.15	1.18	0.82	9.40	9.00	8.00	8.00	1.40	1.00	-----	9547		
1.65	0.96	0.82	11.67	11.00	10.47	10.00	1.20	1.00	-----	9769		
7.50	11.79	1.65	11.48	11.00	10.04	10.00	1.44	1.00	45 50	9922		
1.02	0.93	0.82	9.82	9.00	*7.42	8.00	2.40	1.00	33 00	9694		
1.62	0.88	0.82	10.43	9.00	8.79	8.00	1.64	1.00	37 00	9728		
2.05	0.90	0.82	11.67	11.00	10.67	10.00	1.00	1.00	37 60	9685		
1.02	2.00	0.65	12.50	11.00	11.06	10.00	1.44	1.00	-----	9864		
1.57	0.50	0.41	11.16	11.00	10.66	10.00	0.50	1.00	38 00	9861		
6.97	0.90	0.82	12.12	10.50	10.30	10.00	1.82	0.50	42 00	10010		
3.95	2.20	1.65	13.27	12.50	12.37	12.00	0.90	0.50	46 00	9580		
2.70	1.80	1.65	14.22	10.50	11.58	10.00	2.64	0.50	49 00	9770		
1.02	2.13	1.65	13.54	10.00	10.56	10.00	0.98	-----	47 50	9659		
3.35	2.11	1.65	12.50	10.00	10.54	10.00	1.96	-----	44 25	9545		
1.55	1.75	1.65	11.35	10.00	10.47	10.00	0.88	-----	45 50	9519		
1.55	1.00	0.82	10.59	9.00	9.00	9.00	1.59	-----	42 50	9837		
2.50	1.78	1.65	13.90	12.00	12.94	12.00	0.96	-----	52 00	9835		

\*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
9508	Baugh's The Old Stand By Dissolved Animal Base.	Thomas, Haines Co., Malvern, -----
9587	Baugh's Truckers Favorite, -----	Farmers Cooperative Union, Nelson, -----
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
9533	Bowker's Ammoniated O. I. O. Phosphate, THE CENTRAL CHEMICAL COMPANY, HAGERSTOWN, MD.	E. K. Richards, Flysburg, -----
9893	Farmers Compound, -----	Lloyd Hay, Myersdale, -----
9994	Farmers Compound, -----	T. J. Jacobs, Somerfield, -----
9885	Planters Compound, -----	Irwin Hughes, Pine Grove, -----
	THE COE-MORTIMER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
9916	E. Frank Coe's XXV Ammoniated Phosphate 1916.	W. S. Baird, Lock Haven, -----
9447	E. Frank Coe's XXV Ammoniated Phosphate 1916.	J. H. Ross, Linden Hall, -----
9595	E. Frank Coe's High Grade Ammoniated Superphosphate 1916.	W. S. Baird, Lock Haven, -----
9596	E. Frank Coe's Original Ammoniated Dissolved Phosphate 1916.	W. S. Baird, Lock Haven, -----
9729	E. Frank Coe's Original Ammoniated Dissolved Phosphate 1916.	J. H. Roth, Berks, -----
9884	E. Frank Coe's Original Ammoniated Dissolved Phosphate 1916.	Chas. Shoener, Orwigsburg, -----
	THE JAS G. DOWNWARD CO., COATESVILLE, PA.	
9736	Ammoniated Phosphate, -----	Jefferson Peiffer, Sinking Springs, -----
9617	Ammoniated Phosphate, -----	Isaac Tomlinson, Huntingdon Valley, -----
	THE EUREKA FERTILIZER COMPANY, LANCASTER, PA.	
9444	Corn and Oats, -----	R. C. Wilson, Dayton, -----
9445	Fish and Bone Mixture, -----	R. C. Wilson, Dayton, -----
9730	No. 7 Grain and Grass, -----	Allen Becker, Hamburg, -----
	JOSEPH R. GAWTHROP, KENNETT SQUARE, PA.	
9503	Champion Fertilizer for Wheat and Grass, GRIFFITH & BOYD CO., BALTIMORE, MD.	Jos. R. Gawthrop, Kennett Square, -----
9716	Farmers Gem, -----	J. Ira Zahniser, Mereer, -----
9484	Cereal Mixture, -----	Hartley & Blaine, Turbotville, -----
7472	Cereal Mixture, -----	John Piatt, Allenwood, -----
9933	Fish and Bone Mixture, -----	J. G. Hall, New Providence, -----
9932	Special Fish Mixture, -----	J. G. Hall, New Providence, -----
	M. P. HUBBARD COMPANY, INC., BALTIMORE, MD.	
9538	Hubbard's Active Phosphate, -----	E. C. Mengle, Liverpool, -----
	THE HUBBARD FERTILIZER COMPANY, BALTIMORE, MD.	
9490	Hubbard's Excelsior Mixture, -----	S. R. Kline, Benton, -----

## PORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.			PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.	
	Total.		Guaranteed.	Available.		Guaranteed.	Insoluble.		Guaranteed.			
	Found.	Guaranteed.		Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		
2.30	1.83	1.65	13.65	12.00	12.49	12.00	1.16	-----	50.00	9508		
9.52	2.55	2.47	11.16	10.00	10.08	10.00	1.08	-----	44.25	9587		
1.42	1.10	0.82	9.38	9.00	8.14	8.00	1.24	1.00	39.00	9533		
5.12	1.35	1.25	14.35	-----	*13.53	14.00	0.82	-----	45.50	9893		
5.65	1.35	1.25	14.42	-----	14.00	14.00	0.48	-----	48.00	9994		
3.67	1.58	1.65	11.74	-----	10.68	10.00	1.06	-----	44.00	9885		
1.32	1.05	0.82	12.63	11.00	10.69	10.00	1.94	1.00	40.58	9916		
7.25	0.98	0.82	11.42	11.00	10.56	10.00	0.86	1.00	39.36	9447		
4.80	2.58	2.47	11.80	11.00	10.64	10.00	1.16	1.00	55.38	9575		
7.02	1.74	1.65	11.93	11.00	10.55	10.00	1.38	1.00	47.50	9596		
0.75	2.11	1.65	11.99	11.00	10.13	10.00	1.86	1.00	40.50	9729		
1.25	2.13	1.65	11.86	11.00	9.81	10.00	2.05	1.00	-----	9884		
1.87	0.86	0.82	9.12	11.00	*8.22	10.00	0.90	1.00	-----	9736		
3.02	1.00	0.82	9.18	11.00	*8.60	10.00	0.58	1.00	-----	9617		
2.12	0.11	Trace	11.80	11.00	11.10	10.00	0.70	1.00	26.60	9444		
2.70	0.61	0.41	12.18	11.00	11.48	10.00	0.70	1.00	38.00	9445		
1.65	0.82	0.82	11.12	11.00	*8.50	10.00	2.62	1.00	36.50	9730		
3.75	1.55	1.20	8.69	7.00	6.45	5.00	2.24	2.00	38.00	9503		
5.37	1.12	0.82	12.76	11.00	11.24	10.00	1.52	1.00	36.00	9716		
7.40	1.00	0.82	9.76	9.00	9.18	8.00	0.58	1.00	37.00	9484		
4.32	0.90	0.82	9.82	9.00	9.18	8.00	0.64	1.00	35.00	9472		
2.65	1.75	1.45	8.36	8.00	7.88	7.00	0.48	1.00	42.25	9033		
3.00	1.49	1.25	11.03	11.00	10.79	10.00	0.24	1.00	44.00	9932		
2.20	0.67	0.41	9.93	9.00	9.31	8.00	0.62	1.00	32.50	9538		
4.30	1.80	1.64	12.12	11.00	10.81	10.00	1.23	1.00	43.50	9490		

\*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
9443	INTERNATIONAL AGRICULTURAL CORPORATION, INC., BUFFALO FERTILIZER WORKS, BUFFALO, N. Y. I. A. C. General Crop, -----	P. J. Oesterling & Son, Butler, -----
9448	KEYSTONE BONE FERTILIZER CO., PHILADELPHIA, PA.	
9449	Keystone Economy Grain Compound, ----- Keystone Special Pennsylvania Grain Mixture.	I. G. Williams, Lake Ariel, ----- S. F. Rarig, Catawissa, -----
9454	LANCASTER BONE FERTILIZER COMPANY, LANCASTER, PA.	
9458	Aminoniated Bone Manure, -----	A. L. Stevely, New Providence, -----
9459	Corn, Grass & Wheat Special, -----	Jonas P. Acker, Breiningsville, -----
9460	Lancaster Favorite, -----	S. R. Weaver, East Earl, -----
9461	LANCASTER CHEMICAL COMPANY, LANCASTER, PA.	
9464	Economist, -----	J. W. Seitzinger, Strausstown, -----
9464	Flag Brand, -----	Elias Morgan, Pine Grove, -----
9469	Grain Special, -----	J. W. Seitzinger, Strausstown, -----
9477	Rising Sun, -----	W. S. Kurtz, East Earl, -----
9479	No. 14 Wheat and Grass, -----	Herman & Bolig, Selinsgrove, -----
9488	No. 14 Wheat and Grass, -----	W. S. Kurtz, East Earl, -----
9490	LEBANON FERTILIZER WORKS, LEBANON, PA.	
9498	Levan's Farmers Mixture 1-10-0, -----	E. B. Fritz & Sons Co., Quarryville, -----
9523	Levan's Farmers Mixture 1-10-0, -----	J. H. Grumbine, Fredericksburg, -----
9516	LISTER'S AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
9580	Lister's Excelsior Guano 1916, ----- Lister's Superior Ammoniated Superphosphate 1916.	W. E. Ervin, Somerton, ----- James E. McCaughey, Glenside, -----
9592	THE MAPES FORMULA & PERUVIAN GUANO CO., NEW YORK, N. Y.	
9593	Mapes General Crop 1916 Brand, -----	N. A. Seligman, Tamaqua, -----
9594	Mapes General Crop 1916 Brand, -----	L. A. Steigerwalt, Andreas, -----
9595	Mapes General Crop 1916 Brand, -----	Yeakel & Huzzard, Norritown, -----
9596	THE MARTIN FERTILIZER CO., PHILADELPHIA, PA.	
9598	Martin's Ammoniated Phosphate 2-16, -----	R. C. Fairlamb & Brother, Brandywine Summitt, -----
9611	Martin's Crop Producer, -----	R. C. Fairlamb & Brother, Brandywine Summitt, -----
9788	FRANK P. MILLER, SPRINGTOWN, PA. Farmers Taxpayer, -----	Frank P. Miller, Riegelsville, -----
9866	THE MILLER FERTILIZER COMPANY, BALTIMORE, MD.	
9867	Miller's No. 1 Special, -----	D. B. Esh, Spruce Hill, -----
9875	Miller's No. 1 Special, -----	H. L. Ort, Pennsdale, -----
9874	G. OBER & SONS COMPANY, BALTIMORE, MD.	
9875	Electro Compound, ----- Ober's Sun Beam Guano, -----	D. H. Blocher & Co., Gettysburg, ----- D. H. Blocher & Co., Gettysburg, -----

## PORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.			PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.		
	Found.	Guaranteed.	Found.	Total.			Available.		Insoluble.				
				Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.			
2.82	0.99	0.80	13.71	11.00	10.99	10.06	2.72	1.00	42 00	9443			
1.82 3.22	1.23 1.02	0.82 0.82	10.97 14.06	16.00 13.00	10.09 13.18	9.00 12.00	0.88 0.88	1.00 1.00	36 00 40 50	9638 9414			
1.65 1.25 5.07	1.00 0.49 1.79	0.82 0.40 1.66	10.46 11.35 12.05	10.00 11.00 11.00	*8.64 10.57 10.55	9.00 10.00 10.00	1.82 0.78 1.50	1.00 1.00 1.00	35 00 35 00 42 00	9934 9782 9036			
1.42 1.30 6.17 7.87 2.67 3.62	0.07 1.30 0.51 2.82 0.85 1.20	Trace 1.23 0.41 2.47 0.82 0.82	11.80 11.23 11.67 13.27 9.50 11.61	11.00 11.00 11.00 12.23 11.00 11.00	10.88 *8.43 10.77 12.23 *7.54 *6.85	10.00 10.00 10.00 12.00 10.00 10.00	0.92 2.80 0.96 1.04 1.96 4.76	1.00 1.00 1.00 1.00 1.00 1.00	29 50 ----- 36 00 56 00 40 50 46 00	9420 9664 9419 9937 9859 9928			
4.00 4.67	0.95 0.91	0.82 0.82	11.29 11.54	11.00 11.00	10.19 11.08	10.00 10.00	1.10 0.46	1.00 1.00	38 00 -----	9968 9723			
4.62 2.25	2.85 3.94	2.47 3.29	13.10 12.25	11.00 11.00	10.92 10.11	10.00 10.00	2.18 2.14	1.00 1.00	58 00 -----	9616 9809			
2.50 4.60 4.45	1.56 1.80 1.78	1.65 1.65 1.65	12.82 11.16 10.49	10.00 10.00 10.00	7.84 *6.12 *6.17	8.00 8.00 8.00	4.98 5.04 4.32	2.00 2.00 2.00	45 00 45 00 49 00	9892 9681 9629			
3.22	1.45	1.64	14.57	11.00	12.49	10.00	2.68	1.00	48 00	9810			
3.65	1.04	1.03	11.86	11.00	10.66	10.00	1.20	1.00	43 50	9811			
1.77	0.60	0.41	14.16	10.00	13.50	8.00	0.66	2.00	27 00	9788			
1.37 4.12	1.83 *1.45	1.65 1.65	12.44 12.03	10.50 10.50	10.92 11.37	10.00 10.00	1.52 0.66	0.50 0.50	48 00	9876 9479			
2.92 2.75 2.82	0.91 1.76 2.06	0.82 1.65 1.63	11.99 11.80 10.08	11.00 11.00 11.00	*9.71 10.88 *9.44	10.00 10.00 10.00	2.28 0.92 0.64	1.00 1.00 1.00	----- ----- -----	9974 9975 9671			

\*Deficient.

TABLE NO. II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
9620	OXFORD PACKING WORKS, OXFORD, PA.	Harry H. Miller, Collamer,
9683	O. P. W. No. 2, ----- PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, BALTIMORE, MD.	-----
9482	PatapSCO Farmers Delight, ----- PIEDMONT MT. AIRY CO., BALTIMORE, MD.	Ross E. Goodman, Huntingdon,
9949	Piedmont 1-8 Fertilizer, ----- Piedmont Special Crop Grower, -----	McConnell Brothers, Hughesville, Abram Erb, East Petersburg,
9608	RASIN—MONUMENTAL COMPANY, SUBSIDIARY OF THE VIRGINIA CAROLINA CHEMICAL CO., BALTIMORE, MD.	-----
9825	Rasin's Royal Ammoniated Superphosphate, ----- READING BONE FERTILIZER CO., READING, PA.	W. H. Walker & Co., Kennett Square,
9824	Dissolved Animal Matter, -----	Arbuckle Gordon Co., Fort Washington,
9417	Reading All Crop Special, ----- Reading All Crop Special, -----	Arbuckle Gordon Co., Fort Washington, M. K. Keith & Son, Wernersville,
9950	READING CHEMICAL CO., READING, PA.	-----
9614	Farmers Favorite, ----- Reading Soil Builder, -----	M. K. Hoke, Manheim, John R. Hampton, Nerristown,
9758	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	-----
9759	Roy ter's Honor Brand, ----- Royster's Royal Blue Brand, -----	Jeremiah Seese, Quakertown, Jeremiah Seese, Quakertown,
9526	M. L. SHOEMAKER & CO., INC., PHILADELPHIA, PA.	-----
9404	Swift Sure for Fall Trade, -----	M. L. Shoemaker & Co., Inc., Philadelphia.
9682	Swift Sure for Fall Trade, -----	John Snavely, Palmyra,
9560	Swift's Clay Soil Special, -----	L. A. Steigerwalt, Andreas,
9437	SWIFT & COMPANY, BALTIMORE, MD.	-----
9502	Swift's Clay Soil Special, ----- I. P. THOMAS & SON COMPANY, PHILADELPHIA, PA.	E. E. Davis, Petersburg,
9624	I. P. THOMAS & SON COMPANY, PHILADELPHIA, PA.	W. H. Heckert's Sons, Bakerstown,
9618	F. W. TUNNELL & COMPANY, INC., PHILADELPHIA, PA.	-----
9592	Fish Manure, ----- Potato & Vegetable Manure, -----	H. A. Mendenhall, Toughkenamon,
9592	THE J. E. TYGERT COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, PHILADELPHIA, PA.	W. B. Passmore, Embreeville,
9592	Ammoniated Fertilizer A, ----- Ammoniated Fertilizer AA, -----	Howard F. Brown, Chester Heights,
9592	Ammoniated Fertilizer AA, -----	Robert Raker, Liberty,

PO<sub>4</sub> ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.		
	Found.	Guaranteed.	Total.		Available.		Insoluble.					
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.				
2.12	% 2.00	% 1.44	% 13.71	% 10.00	% 11.35	% 9.00	% 2.36	% 1.00	\$ 43 00	9626		
1.37	1.36	0.82	9.95	9.00	8.29	8.00	1.66	1.00	39 00	9683		
3.92 2.82	0.85 0.80	0.82 0.82	9.31 11.86	----- 11.00	8.43 10.98	8.00 10.00	6.88 0.90	----- 1.00	39 00 38 00	9482 9949		
2.45	0.68	0.41	11.51	11.00	11.23	10.00	0.28	1.00	40 00	9608		
2.50 1.80 5.60	0.98 1.74 1.71	0.82 1.64 1.64	11.29 12.95 12.44	11.00 11.00 11.00	10.41 11.63 11.20	10.00 10.00 10.00	0.88 1.32 1.24	1.00 1.00 1.00	41 50 48 50 47 00	9825 9824 9417		
4.00 3.75	1.00 1.60	0.82 1.65	12.25 11.61	11.00 11.00	10.79 10.73	10.00 10.00	1.46 0.88	1.00 1.00	39 30 49 50	9950 9614		
0.82 1.80	1.75 1.14	1.65 0.82	12.12 10.65	10.50 10.50	11.06 10.25	10.00 10.00	1.06 0.40	0.50 0.50	44 50 37 50	9758 9759		
4.60	2.29	1.65	15.50	14.00	12.22	12.00	3.28	2.00	48 00	9526		
7.40 3.50	2.18 2.30	1.65 1.65	15.05 15.69	14.00 14.00	12.23 12.95	12.00 12.00	2.82 2.74	2.00 2.00	----- 50 00	9404 9682		
3.30	2.14	1.65	13.33	12.00	12.63	12.00	0.70	-----	-----	9569		
4.35	0.47	0.41	13.78	-----	12.24	12.00	1.54	-----	42 00	9437		
2.10 4.72	1.71 1.64	1.65 1.64	12.88 12.31	11.00 11.00	11.02 10.51	10.00 10.00	1.86 1.80	1.00 1.00	----- 46 00	9502 9624		
1.35 3.65	1.10 1.95	0.82 1.65	11.03 13.61	11.00 11.00	9.89 10.09	10.00 10.00	1.14 2.92	1.00 1.00	42 75 -----	9618 9592		

\*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	UNION CHEMICAL WORKS, INC., NORTH WALES, PA.	
9806	One Eight Mixture, -----	Chas. Wegscheider, Line Lexington, -----
9865	Two Eight Mixture, -----	Chas. Wegscheider, Line Lexington, -----
	VIRGINIA CAROLINA CHEMICAL CO. OF DELAWARE, BALTIMORE, MD.	
9781	V. C. Star Superphosphate, -----	James M. Kein, Jr., Slatington, -----
	THE ROBERT A. WOOLDRIDGE COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, BALTIMORE, MD.	
9613	Wooldridge's General Crop Grower, -----	Garfield Milhous, Mendenhall, -----
	YORK CHEMICAL WORKS, YORK, PA.	
9505	Dempwolf's Crop Grower, -----	Edward F. Bracken, Paoli, -----
9559	Dempwolf's Crop Grower, -----	Samuel J. Herline, Manns Choice, -----
9862	Dempwolf's Crop Grower, -----	J. B. Rohrer, Port Treverton, -----
9599	Dempwolf's Prosperity, -----	A. T. Baird, Lock Haven, -----
9947	Dempwolf's Two and Ten, -----	H. M. Stouffer, Leota, -----
		Average, -----

## PORIC ACID FERTILIZERS—Concluded.

Moistur <sup>r</sup> ?	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.		
			Total.		Available.		Insoluble.					
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.				
% 1.67	% 1.63	% 1.64	% 8.67	% 8.00	% *6.87	% 8.00	% 0.80	% -----	\$ 43 00	9805		
1.75	0.64	0.41	9.63	9.00	9.13	8.00	0.50	1.00	31 50	9781		
1.12	1.13	0.82	9.69	9.00	*7.47	8.00	2.22	1.00	38 00	9613		
2.50	0.75	0.82	12.76	-----	11.46	10.00	1.30	-----	37 00	9505		
2.33	0.99	0.82	11.41	-----	10.35	10.00	1.06	-----	39 00	9559		
2.05	6.83	0.82	11.80	-----	11.12	10.00	0.68	-----	39 70	9862		
4.62	1.80	1.64	13.52	12.00	12.92	12.00	0.60	-----	47 00	9599		
7.65	1.62	1.64	15.88	10.00	10.82	10.00	5.06	-----	52 00	9947		
3.13	1.49	-----	11.74	-----	10.16	-----	1.58	-----	\$41 96	-----		

\*Deficient.

TABLE NO. III—GROUND  
Furnishing Nitrogen

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
9652	THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y. Fine Ground Bone, -----	D. Bedell, Ransom, -----
9849	Fine Ground Bone, -----	B. Vansiekel, Cortez, -----
9706	ARMOUR FERTILIZER WORKS, CHICAGO, ILL. Bone Meal, -----	F. F. Harrison, Edenboro, -----
9642	BAUGH & SONS COMPANY, PHILADELPHIA, PA. Baugh's Pure Steamed Bone, -----	J. E. Streeter, Clark Summit, -----
9531	Baugh's Raw Bone Meal, -----	Charles Adams, Catawissa, -----
9506	Baugh's Raw Bone Meal, -----	Thomas, Haines Co., Malvern, -----
9980	JACOB DOLD PACKING CO., BUFFALO, N. Y. Dold Quality Bone Meal, -----	B. F. Barr & Co., Lancaster, -----
9434	GRIFFITH & BOYD CO., BALTIMORE, MD. Hubbards Pure Raw Bone, -----	Willis C. Herr, Strasburg, -----
9500	THE HUBBARD FERTILIZER COMPANY, BALTIMORE, MD. Keystone Pure Ground Bone, -----	Harmony Cereal Mills, Harmony, -----
9808	KEYSTONE BONE FERTILIZER CO., PHILADELPHIA, PA. Keystone Pure Ground Bone, -----	S. F. Rarig, Catawissa, -----
9611	THE MARTIN FERTILIZER CO., BALTIMORE, MD. Martin's Pure Ground Bone, -----	R. E. Mason, Hatboro, -----
9524	G. OBER & SONS COMPANY, BALTIMORE, MD. Ober's Pure Bone Meal, -----	W. H. Walker & Co., Kennett Square, -----
9521	Ober's Pure Raw Bone Meal, -----	Harvey Speneer, Coehranville, -----
9625	RASIN—MONUMENTAL COMPANY, SUBSIDIARY OF THE VIRGINIA CAROLINA CHEMICAL CO., BALTIMORE, MD. Reading Bone Fertilizer Co., READING, PA.	E. H. Keen & Son, Parkesburg, -----
9807	Pure Bone Meal, -----	S. H. Chauvenet, Exton, -----
9877	Pure Bone Meal, -----	S. Carl Garner, Hatboro, -----
9514	ROBERT A. REICHARD, ALLEN TOWN, PA. Reichard's Steamed Bone Meal, -----	Harrison Honim, Lehighton, -----
9513	THE SCOTT FERTILIZER COMPANY, ELKTON, MD. Scott's Pure Bone Meal, -----	Edw. Rupert, Oxford, -----
	Scott's Pure Ground Raw Bone, -----	Edw. Rupert, Oxford, -----
		Average, -----

## BONE FERTILIZERS.

and Phosphoric Acid.

Moisture.	CHEMICAL ANALYSIS.					MECHANICAL ANALYSIS.			Selling price per ton at place of selection.	Chemist's number.
	NITROGEN.		PHOSPHORIC ACID.			Fine.		Coarse.		
	Found.	Guaranteed.	Found.	Guaranteed.	Fine.	Coarse.				
2.50	2.55	2.47	27.04	22.88	68	32	\$52 00		9652	
2.62	2.65	2.47	25.83	22.88	64	36	\$52 00		9849	
2.32	3.60	2.47	23.18	22.00	56	44	61 75		9706	
2.60	2.57	1.65	29.72	25.00	74	26	51 00		9642	
6.57	3.62	3.30	*17.86	18.30	73	27	70 00		9531	
5.90	3.55	3.30	18.75	18.30	69	31	76 00		9506	
3.65	3.80	2.47	*20.73	23.00	67	33	50 00		9980	
2.54	*2.86	3.29	*16.80	20.00	69	31	45 00		9963	
7.10	4.60	3.69	23.73	22.50	59	41	65 00		9434	
3.30	2.94	2.46	27.81	23.00	67	33	58 50		9500	
2.62	2.94	2.47	*21.49	22.90	59	41	68 00		9808	
2.52	2.35	2.47	25.38	22.00	77	23	70 00		9611	
7.02	4.26	3.71	25.13	21.00	64	36	72 00		9524	
5.37	3.96	3.70	*20.88	21.31	55	45	73 00		9521	
2.42	2.75	2.46	24.66	23.00	65	35	-----		9625	
2.80	2.50	2.46	25.83	23.00	64	36	70 00		9807	
2.97	*2.65	2.88	22.90	22.00	51	46	-----		987	
2.77	2.65	2.50	23.85	23.00	75	25	68 00		9514	
6.80	4.35	3.70	23.47	21.00	54	46	76 00		9513	
3.51	3.22	-----	23.40	-----	65	35	\$63 43	-----		

\*Deficient.

TABLE NO. IV.—ACIDULATED  
 Furnishing

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
9793	14% Acid Phosphate, -----	Eli Reiner, Flickville, -----
9584	16% Acid Phosphate, -----	W. J. Grover & Son, Newfield, -----
9656	16% Acid Phosphate, -----	F. Learn, Ransom, -----
9712	16% Acid Phosphate, -----	R. E. Speer, New Castle, -----
9602	Ludlam's Cecrops High Grade Dissolved Phosphate.	Jacob Fleisher, Marysville, -----
9361	Ludlam's Cecrops High Grade Dissolved Phosphate.	N. B. Shober, Garret, -----
9897	Ludlam's Cecrops High Grade Dissolved Phosphate.	West Salisbury Feed Co., West Salisbury, -----
9657	Nassau High Grade Superphosphate, -----	B. W. Bedell, Dalton, -----
9761	Nassau High Grade Superphosphate, -----	A. H. Fell, Danboro, -----
9557	Nassau High Grade Superphosphate, -----	H. S. Moch, Alum Bank, -----
9422	Nassau Soluble Phosphate, -----	H. S. Lesher, Bernville, -----
9556	Nassau Soluble Phosphate, -----	H. S. Moch, Alum Bank, -----
9840	Patapco High Grade Acid Phosphate, -----	Fred Mick, Cresco, -----
9647	Patapco High Grade Acid Phosphate, -----	Oscar Vanbucker, Clark Summit, -----
9853	Patapco High Grade Acid Phosphate, -----	B. Vansiekel, Cortez, -----
9641	Wheeler's High Grade Acid Phosphate, -----	N. H. Roboeker, Sterling, -----
10000	Wheeler's Peerless Acid Phosphate, -----	Chas. W. Holt, Farmington, -----
	THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, THE POLLOCK FERTILIZER CO., BRANCH, BALTIMORE, MD.	
9452	Pollock's High Grade Superphosphate, -----	C. S. Garbrick, Mingoville, -----
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
9857	American High Grade Acid Phosphate, -----	Jones Evanson, Christiana, -----
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
9588	Baugh's 16% Acid Phosphate, -----	Farmers Cooperative Union, Nelson, -----
9966	Baugh's 16% Acid Phosphate, -----	E. B. Fritz & Sons Co., Quarryville, -----
9834	Baugh's 16% Acid Phosphate, -----	J. A. Seguin, Cresco, -----
9460	Baugh's Lime and Phosphate, -----	R. D. Forman, Centre Hall, -----
9544	Baugh's Lime and Phosphate, -----	B. F. Horting, Newport, -----
9983	Baugh's Lime and Phosphate, -----	H. L. Stultz & Brothers, Williamsburg, -----
	BOWKER FERTILIZER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
9593	Bowker's Acid Phosphate, -----	R. A. DeCoursey, Liberty, -----
10008	Bowker's Acid Phosphate, -----	C. S. Hunter Company, Washington, -----
9848	Bowker's Soluble Phosphate, -----	M. Stiffs, Mount Cobb, -----
	THE CENTRAL CHEMICAL COMPANY, HAGERSTOWN, MD.	
9987	Dissolved Phosphate, -----	M. R. Brumbaugh, Martinsburg, -----
9561	Dissolved Phosphate, -----	D. B. Griffith, Wolfsburg, -----
9904	Dissolved Phosphate, -----	H. J. Walker, Berlin, -----

## PHOSPHATE FERTILIZERS.

## Phosphoric Acid.

## PHOSPHORIC ACID.

Moisture.	TOTAL.		AVAILABLE.		INSOLUBLE.		Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
1.45	16.14	15.60	15.46	14.00	0.68	1.00	32 00	9793
0.97	18.24	17.00	17.18	16.00	1.06	1.00	28 00	9584
1.77	18.56	17.00	17.82	16.00	0.74	1.00	23 00	9656
0.87	18.43	17.00	16.95	16.00	1.48	1.00	36 00	9713
0.95	18.50	17.00	17.88	16.60	0.62	1.00	-----	962
1.00	17.86	17.00	17.12	16.00	0.74	1.00	-----	991
2.15	17.67	17.00	16.93	16.00	0.74	1.00	33 00	9897
1.77	18.05	17.00	17.39	16.00	0.66	1.00	24 00	9657
1.22	17.67	17.00	16.35	16.00	1.32	1.00	30 25	9761
5.35	17.35	17.00	16.19	16.00	1.16	1.00	33 50	9557
3.80	14.64	15.00	*13.76	14.00	0.88	1.00	31 50	9422
4.00	16.07	15.00	14.69	14.00	1.38	1.00	31 50	9556
2.00	18.75	17.00	17.65	16.00	1.10	1.00	29 50	9840
1.72	18.94	17.00	18.34	16.00	0.60	1.00	28 26	9647
1.92	18.37	17.00	17.57	16.00	0.80	1.00	28 00	9853
1.60	18.14	17.00	17.28	16.00	0.86	1.00	30 00	9641
2.82	15.63	15.00	14.91	14.00	0.72	1.00	39 00	10000
2.62	18.18	17.00	17.30	16.00	0.88	1.00	33 88	9452
6.15	17.54	17.00	17.44	16.00	0.10	1.00	33 00	9957
2.02	18.24	16.00	17.98	16.00	0.26	-----	28 00	9588
1.50	19.01	16.00	17.03	16.00	1.98	-----	32 50	9966
1.67	19.52	16.00	17.96	16.00	1.56	-----	32 25	9834
1.75	15.65	14.00	13.55	13.00	2.10	1.00	34 24	9460
1.62	14.99	14.00	*12.57	13.00	2.42	1.00	32 20	9544
3.37	14.35	14.00	*12.19	13.00	2.16	1.00	37 00	9983
1.97	19.32	17.00	18.62	16.00	0.70	1.00	29 20	9593
4.27	17.67	17.00	16.19	16.00	1.48	1.00	38 00	10008
1.77	16.33	15.00	15.57	14.00	0.75	1.00	29 00	9848
1.10	18.21	16.50	18.02	16.00	0.22	0.50	34 00	9987
6.15	17.54	16.50	17.42	16.00	0.12	0.50	31 50	9561
1.47	18.50	16.50	17.60	16.00	0.90	0.50	30 00	9904

\*Deficient.

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE COE MORTIMER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
9692	E. Frank Coe's High Grade Soluble Phosphate.	G. A. Butterbaugh, McConnellburg, -----
9673	E. Frank Coe's High Grade Soluble Phosphate.	Ed. Mayberry, Pine Grove, -----
9594	E. Frank Coe's 16% Superphosphate, -----	W. S. Baird, Lock Haven, -----
	THE CONSUMERS CHEMICAL CORPORATION, AFFILIATED WITH VIRGINIA CAROLINA CHEMICAL COMPANY, NEW YORK, N. Y.	
9846	Sterling Phosphate, -----	B. F. Kennedy, Pleasant Mount, -----
9766	Sterling Phosphate, -----	J. S. Weierbach Son, Pleasant Valley, -----
	DUBOIS FERTILIZER WORKS, INC., DUBOIS, PA.	
9571	DuBois 14% Acid Phosphate Fertilizer, -----	E. A. Hays, Clintondale, -----
9572	DuBois 16% Acid Phosphate Fertilizer, -----	E. A. Hays, Clintondale, -----
	EASTERN GUANO COMPANY, NEW YORK, N. Y.	
9586	Eastern Dissolved Phosphate, -----	Farmers Cooperative Union, Ulysses, -----
	EUREKA CHEMICAL COMPANY, BALTIMORE, MD.	
9720	Eureka 16% Acid Phosphate, -----	McFarland Supply Co., Greensburg, -----
9691	Eureka 16% Acid Phosphate, -----	W. H. Nesbit, McConnellsburg, -----
	S. M. HESS & BROTHER, INC., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, PHILADELPHIA, PA.	
9438	Special High Grade Acid Phosphate, -----	Geo. H. Baker, Valencia, -----
9996	Special High Grade Acid Phosphate, -----	T. G. Hager, Farmington, -----
9418	Special High Grade Acid Phosphate, -----	Abraham Keim, Strausstown, -----
9565	Special High Grade Acid Phosphate, -----	Paul Neff, Alexandria, -----
	M. P. HUBBARD COMPANY, INC., BALTIMORE, MD.	
9537	Hubbard's Soluble Phosphate, -----	E. C. Mengle, Liverpool, -----
	THE HUBBARD FERTILIZER COMPANY, BALTIMORE, MD.	
9650	Hubbard's 16% Phosphate, -----	L. M. Blackwell, Ransom, -----
9574	Hubbard's 16% Phosphate, -----	G. W. Evenwine, Salona, -----
9982	Hubbard's 16% Phosphate, -----	Farmers Cooperative Mercantile Co., Laceyville, -----
	KEYSTONE BONE FERTILIZER CO., PHILADELPHIA, PA.	
9639	Keystone 16% Acid Phosphate, -----	I. G. Williams, Lake Ariel, -----
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.	
9645	Grangers Acid Phosphate, -----	C. Pallman, Clark Summit, -----
	LANCASTER CHEMICAL COMPANY, LANCASTER, PA.	
9979	Phosphate Acid Special, -----	Lancaster Chemical Company, Lancaster, -----

## PHOSPHATE FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.								Chemist's number.	
	TOTAL.		AVAILABLE.		INSOLUBLE.		Selling price per ton at place of selection.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.				
0.65	15.95	15.00	14.91	14.00	1.04	1.00	33 00	9692		
1.30	15.05	15.00	*13.57	14.00	1.48	1.00	-----	9673		
4.55	17.48	17.00	16.84	16.00	6.64	1.00	35 33	9594		
0.90	19.58	17.00	18.32	16.00	1.26	1.00	32 00	9846		
1.25	18.88	17.60	18.00	16.00	0.88	1.00	35 00	9766		
1.50	16.90	14.50	15.80	14.00	1.10	0.50	32 85	9571		
2.20	18.73	16.75	18.47	16.00	0.26	0.75	34 35	9572		
2.30	18.05	-----	16.97	16.00	1.08	-----	27 50	9586		
1.60	17.60	16.50	16.78	16.00	0.82	0.50	38 00	9720		
1.05	19.07	16.50	18.49	16.00	0.58	0.50	32 34	9691		
1.40	18.28	17.00	16.80	16.00	1.48	1.00	35 00	9438		
2.15	18.30	17.00	16.46	16.00	1.84	1.00	-----	9926		
4.95	17.05	17.00	16.11	16.00	0.94	1.00	33 00	9418		
3.82	17.99	17.00	17.09	16.00	6.00	1.00	33 75	9565		
9.75	16.93	15.00	16.83	14.00	0.40	1.00	32 00	9537		
2.90	17.92	17.00	17.48	16.00	0.44	1.00	23 00	9650		
1.07	18.82	17.00	18.10	16.00	0.72	1.00	33 50	9574		
2.50	18.30	17.00	18.17	16.00	0.13	1.00	30 00	9982		
5.77	17.03	17.00	16.87	16.00	0.16	1.00	30 00	9639		
1.65	18.43	16.00	18.27	16.00	0.16	-----	20 00	9645		
0.90	18.50	17.00	17.84	16.00	0.66	1.00	-----	9979		

\*Deficient.

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
9416	LEBANON FERTILIZER WORKS, LEBANON, PA. Levan's Super Phosphate 16%, -----	J. H. Bennet, Sheridan, -----
9583	LISTERS AGRICULTURAL CHEMICAL WORKS, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEWARK, N. J. Listers High Grade Acid Phosphate, -----	F. C. Jacobs, Coudersport, -----
9550	Listers Lime Phosphate, -----	Francis Baker, Everett, -----
9988	Listers Lime Phosphate, -----	Ebensburg Milling & Supply Co., Ebensburg, -----
9721	Listers Lime Phosphate, -----	J. Harvey Miller, Ligonier, -----
9959	NITRATE AGENCIES COMPANY, NEW YORK, N. Y. N. A. C. Brand Acid Phosphate, -----	Jos. C. Walker & Sons Co., Gap, -----
9610	G. OBER & SONS COMPANY, BALTIMORE, MD. Ober's High Grade Acid Phosphate 16%, -----	W. H. Walker & Co., Kennett Square, -----
9551	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, BALTIMORE, MD. Patapsco High Grade Acid Phosphate, -----	Francis Baker, Everett, -----
9476	Patapsco High Grade Acid Phosphate, -----	W. E. Boyer, Mooresburg, -----
9425	Patapsco High Grade Acid Phosphate, -----	J. J. Kennedy, Zelienople, -----
9477	Patapsco Pure Dissolved S. C. Phosphate, -----	W. E. Boyer, Mooresburg, -----
9805	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD. Piedmont 16% Acid Phosphate, -----	James Maust, Elk Lick, -----
9638	Piedmont 16% Acid Phosphate, -----	Wm. A. Nickles, Shippensburg, -----
9703	Piedmont 16% Acid Phosphate, -----	J. M. Sherretts & Son, Dicksonburg, -----
10067	PITTSBURGH PROVISION & PACKING CO., PITTSBURGH, PA. High Grade Acid Phosphate, -----	W. H. Dunlap Jr., Canonsburg, -----
9446	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD. Rasin's 16% Acid Phosphate, -----	Kidder & Raymond, Oak Hall Station, -----
9410	READING BONE FERTILIZER CO., READING, PA. 16% Clear Acid Phosphate, -----	G. V. Bensing, Fredricksburg, -----
9626	16% Clear Acid Phosphate, -----	S. H. Chauvert, Exton, -----
9918	READING CHEMICAL COMPANY, READING, PA. High Grade Phosphate, -----	C. E. Frazier, Mill Hall, -----
9999	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD. Royster's 14% Acid Phosphate, -----	C. D. Chamberlain, Brownsville, -----
9760	Royster's 16% Acid Phosphate, -----	Jeremiah Seese, Quakertown, -----

## PHOSPHATE FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.								Chemist's number.	
	TOTAL.		AVAILABLE.		INSOLUBLE.		Selling price per ton at place of selection.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.				
% 5.70	% 17.22	% 17.00	% 17.00	% 16.00	% 0.22	% 1.00	\$ 34 00	9416		
1.90	18.43	17.00	18.31	16.00	0.12	1.00	30 00	9583		
1.55	16.05	14.00	*12.79	13.00	3.26	1.00	35 00	9550		
1.62	17.00	14.00	15.13	13.00	1.96	1.00	32 00	9988		
1.27	16.71	14.00	14.83	13.00	1.88	1.00	35 00	9721		
3.30	17.79	17.00	17.49	16.00	0.30	1.00	34 00	9959		
1.60	17.67	17.00	17.25	16.00	0.42	1.00	35 00	9610		
0.97	18.66	17.00	17.82	16.00	0.84	1.00	35 00	9551		
3.40	17.22	17.00	16.56	16.00	0.66	1.00	33 25	9476		
1.27	18.75	17.00	17.11	16.00	1.64	1.00	33 00	9435		
5.10	16.46	15.00	15.96	14.00	0.50	1.00	31 75	9477		
2.15	17.48	17.00	17.10	16.00	0.38	1.00	37 00	9806		
2.95	18.11	17.00	17.51	16.00	0.60	1.00	31 75	9698		
1.55	17.41	17.00	15.83	16.00	1.58	1.00	37 50	9703		
2.85	18.69	17.00	18.51	16.00	0.18	1.00	36 00	9007		
4.92	17.41	17.00	17.13	16.00	0.28	1.00	35 00	9446		
5.75	17.91	17.00	17.31	16.00	0.60	1.00	36 00	9410		
1.10	19.39	17.00	17.81	16.00	1.58	1.00	36 00	9626		
1.40	18.18	17.00	17.92	16.00	0.26	1.00	32 60	9918		
2.17	14.92	14.50	14.28	14.00	0.64	0.50	38 00	9999		
0.65	18.75	16.50	17.47	16.00	1.28	0.50	32 25	9760		

\*Deficient.

TABLE IV.--ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
9823	THE SCOTT FERTILIZER COMPANY, ELKTON, MD.	O. M. Lummis, Uwhland, -----
9680	Scott's Tip Top Soluble Phosphate 16%, -----	L. A. Steigerwalt, Andreas, -----
9709	M. L. SHOEMAKER & CO., INC., PHILA- DELPHIA, Pa.	W. A. Boylan, Meadville, -----
9560	Dissolved South Carolina Rock, -----	J. E. Taylor, Schellsburg, -----
9553	STANDARD GUANO CO., BALTIMORE, MD.	Roy Fletcher, Everett, -----
9099	Extra High Grade Acid Phosphate, -----	E. B. Maurer, Boswell, -----
9985	Extra High Grade Acid Phosphate, -----	W. S. Suckling, Hollidaysburg, -----
9600	VIRGINIA-CAROLINA CHEMICAL CO., OF DELAWARE, BALTIMORE, MD.	A. T. Baird, Lock Haven, -----
9448	V. C. 16% Acid Phosphate, -----	Farmers Cooperative Association, State College, -----
9442	V. C. 16% Acid Phosphate, -----	S. W. Thompson, Butler, -----
Average.		

## PHOSPHATE FERTILIZERS—Concluded.

Moisture.	PHOSPHORIC ACID.								Chemist's number.	
	TOTAL.		AVAILABLE.		INSOLUBLE.		Selling price per ton at place of selection.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.				
1.27	17.16	18.00	16.30	16.00	0.86	2.00	-----	-----	9680	
3.95	16.97	16.50	16.83	16.00	0.14	0.50	28.00	9705		
1.43	17.92	16.50	17.64	16.00	0.28	0.50	28.50	9566		
3.07	18.18	17.00	18.00	16.00	0.18	1.00	38.00	9985		
1.35	17.99	17.00	17.11	16.00	0.88	1.00	34.00	9553		
1.07	18.82	17.00	17.36	16.00	1.46	1.00	35.00	9900		
1.55	18.24	16.00	17.96	16.00	0.28	-----	32.00	9606		
4.47	17.92	16.00	17.64	16.00	0.28	-----	31.25	9448		
1.60	19.10	16.00	18.40	16.00	0.70	-----	36.00	9442		
2.41	17.71	-----	16.84	-----	0.87	-----	\$32.43	-----		

\*Deficient.

TABLE No. V.—ROCK AND  
Furnishing Phosphoric

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
9794	Bradley's Phosphate & Potash, -----	Eli Reimer, Flicksville, -----
9962	Dissolved Phosphate & Potash, -----	John Greenleaf, Quarryville, -----
9548	Dissolved Phosphate & Potash, -----	G. B. Lutz, Lutzville, -----
9727	Dissolved Phosphate & Potash, -----	C. H. Webber, Rehrersburg, -----
9856	Gem Phosphate, -----	T. M. Herman, Middleburg, -----
9433	Gem Phosphate, -----	Parnassus Hardware Co., Parnassus, -----
9553	High Grade Phosphate & Potash, -----	John Greenleaf, Quarryville, -----
9875	Milson's Crown Phosphate, -----	Aaron Zimmerman, Lehighton, -----
9699	Moro-Phillip's Wheat Speciai, -----	Wm. A. Nickles, Shippensburg, -----
9700	Nassau Grass and Grain Fertilizer, -----	Dunecannon Flourin gMill Co., Dunecannon, -----
9732	Nassau Grass and Grain Fertilizer, -----	N. F. Euth, Maeungle, -----
9481	Susquehanna Alkaline Phosphate, -----	H. L. Ort, Pennsdale, -----
10003	Wheeler's Wheat & Clover Fertilizer, -----	James L. Dague, West Brown ville, -----
9924	Wheeler's Wheat & Clover Fertilizer, -----	Torenée DeLang, Loganton, -----
9984	Wheeler's Wheat & Clover Fertilizer, -----	A. J. Norris, Williamsburg, -----
9680	Wheeler's Wheat & Clover Fertilizer, -----	Clay Parks, Three Springs, -----
9567	Wooldridge's American Potash Mixture, -----	W. S. Baker, Alexandria, -----
9880	Wooldridge's Ideal Gram and Grass Producer.	Chas. Loch, Andreas, -----
9881	Wooldridge's Liberty Bell Potash Mixture, -----	
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
9581	Wheat and Clover, -----	Horn & Devling, Galeton, -----
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
9786	Baugh's Soluble Alkaline Super Phosphate, -----	Peter Frantz, Pen Argyl, -----
9520	Baugh's Soluble Alkaline Super Phosphate, -----	E. H. Keen & Son, Parkesburg, -----
	BOWKER FERTILIZER COMPANY, SUB-SIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
9459	Bowker's Superphosphate with Potash, -----	R. M. Smith, Centre Hall, -----
	THE COE-MORTIMER COMPANY, SUB-SIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
10009	E. Frank Coe's Famous Prize Brand, -----	J. G. Cover, Masontown, -----
9799	E. Frank Coe's Famous Prize Brand, -----	Geo. D. Lentz, Bangor, -----
	COLUMBIA GUANO CO., ALLIED WITH F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
9717	Columbia 10-2 Phosphate & Potash, -----	Geo. H. Kennedy, Utica, -----
	THE CONSUMERS CHEMICAL CORPORATION, AFFILIATED WITH VIRGINIA CAROLINA CHEMICAL COMPANY, NEW YORK, N. Y.	
9927	Elmash Phosphate, -----	W. J. Wolfe, Booneville, -----
	THE FARMERS FERTILIZER WORKS ELIZABEHTOWN, PA.	
9543	Farmers Economy, -----	B. F. Horting, Newport, -----
9958	Farmers Economy, -----	Jos. C. Walker & Sons Co., Gap, -----

POTASH FERTILIZERS.  
Acid and Potash.

Moisture.	PHOSPHORIC ACID.						POTASH.						Chemist's number.	
	Total.		Available.		Insoluble.		Found.		Guaranteed.		Present as muriate.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as sulphate.					
4.85	10.97	11.00	10.57	10.00	0.40	1.00	1.92	2.00	1.92	-----	37.25	9052		
2.77	11.23	11.00	10.37	10.00	0.86	1.00	2.25	2.00	2.25	-----	-----	9518		
1.40	10.78	11.00	*9.50	10.00	1.28	1.00	2.03	2.00	2.03	-----	38.00	9727		
0.87	7.46	7.00	6.46	6.00	1.00	1.00	2.95	3.00	2.95	-----	35.40	9856		
1.75	6.95	7.00	6.69	6.00	0.26	1.00	3.17	3.00	3.17	-----	42.00	9423		
4.62	12.88	11.00	12.30	10.00	0.58	1.00	4.59	4.00	4.59	-----	48.45	9953		
6.05	11.48	11.00	10.60	10.00	0.88	1.00	2.06	2.00	2.06	-----	36.00	9639		
6.75	11.16	11.00	10.32	10.00	0.84	1.00	2.24	2.00	2.24	-----	38.00	9700		
1.52	10.10	11.00	*9.00	10.00	1.10	1.00	2.82	2.00	2.82	-----	41.00	9481		
8.37	11.61	11.00	10.91	10.00	0.70	1.00	2.00	2.00	2.00	-----	39.50	10003		
3.00	11.42	11.00	10.14	10.00	1.28	1.00	1.91	2.00	1.91	-----	38.20	9924		
1.65	11.74	11.00	10.90	10.00	0.84	1.00	2.22	2.00	2.22	-----	39.00	9984		
7.67	11.29	11.00	10.53	10.00	6.76	1.00	1.96	2.00	1.96	-----	38.00	9680		
1.12	11.61	11.00	10.67	10.00	0.94	1.00	2.10	2.00	2.10	-----	37.00	957		
9.42	11.16	11.00	10.42	10.00	0.74	1.00	2.07	2.00	2.07	-----	45.00	9880		
2.50	12.05	11.00	11.29	10.00	0.73	1.00	*3.54	4.00	3.54	-----	46.00	9881		
3.30	13.52	13.00	12.66	12.00	0.86	1.00	3.41	3.00	3.41	-----	-----			
3.90	11.16	10.50	10.74	10.00	0.42	0.50	5.80	5.00	5.80	-----	47.00	9581		
1.27	12.31	10.00	11.21	10.00	1.10	-----	2.28	2.00	2.28	-----	37.25	9786		
3.85	11.03	10.00	10.17	10.00	0.86	-----	*1.80	2.00	1.80	-----	38.00	9520		
2.60	11.35	11.00	10.29	10.00	1.06	1.00	1.90	2.00	1.30	0.60	38.00	9459		
3.97	11.61	11.00	10.77	10.00	6.84	1.00	2.08	2.00	2.08	-----	44.00	10009		
3.15	11.23	11.00	10.69	10.00	0.54	1.00	2.25	2.00	2.25	-----	38.25	9799		
5.72	10.40	10.50	10.18	10.00	0.22	0.50	2.01	2.00	2.01	-----	40.60	9717		
2.15	14.54	13.00	14.04	12.00	0.50	1.00	2.46	2.00	2.46	-----	41.50	9927		
9.17	12.63	11.00	11.85	10.00	0.78	1.00	*2.56	3.00	2.56	-----	39.35	9543		
6.39	12.95	11.00	11.79	10.00	1.16	1.00	*2.80	3.00	2.80	-----	42.00	9958		

\*Deficient.

TABLE V.—ROCK AND

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
9427	GRIFFITH & BOYD CO., BALTIMORE, MD.	
9495	Special Grain Grower, -----	
9940	Special Grain Grower, -----	
	XX Potash Manure, -----	
9423	S. M. HESS & BROTHER, INC., SUBSIDIARY OF THE AMERICAN AGRICULTURAL COMPANY, PHILADELPHIA PA.	
9504	Soluble Phosphate & Potash, -----	
9566	Soluble Phosphate & Potash, -----	
	Soluble Phosphate & Potash, -----	
9511	M. P. HUBBARD COMPANY, INC., BALTIMORE, MD.	
	Hubbard's Soluble Phosphate and Potash 10-2	
	THE HUBBARD FERTILIZER COMPANY BALTIMORE, MD.	
9465	Hubbard's High Grade Potash Mixture, -----	
9573	Hubbard's Phosphate and Potash, -----	
	KEYSTONE BONE FERTILIZER CO., PHILADELPHIA, PA.	
9751	Keystone Phosphate and 4% Potash, -----	
	LISTERS AGRICULTURAL CHEMICAL WORKS, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEWARK, N. J.	
9919	Lister's Dissolved Phosphate & Potash, -----	
9552	Lister's Grain and Grass Fertilizer Revised	
	THE MARTIN FERTILIZER CO., PHILADELPHIA, PA.	
9857	Martin's Potash and Soluble Phosphate 10-2.	
9733	Martin's Potash and Soluble Phosphate 10-2.	
	THE MILLER FERTILIZER CO., BALTIMORE, MD.	
9473	Miller's Alkaline Mixture, -----	
	G. OBER & SONS COMPANY, BALTIMORE, MD.	
9871	Ober's 10% Super Phosphate and Potash, -----	
9756	Ober's 10% Super Phosphate and Potash, -----	
9688	Ober's 10% Super Phosphate and Potash, -----	
	PATAPSICO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, BALTIMORE MD.	
9989	Baltimore Soluble Phosphate, -----	
9478	Patapsico Phospho Potash, -----	
9468	Patapsico Potash Mixture, -----	
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
9757	Piedmont Potash Mixture, -----	
9546	Piedmont Potash Mixture, -----	
	Arthur A. Gelger, Joanna, A. H. Ulsh Sons, Millerstown,	

## POTASH FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.						POTASH.						Chemist's number.
	Total.		Available.		Insoluble.		Found.		Guaranteed.		Found.		
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Present as muriate.
2.75	11.80	11.00	10.36	10.00	1.44	1.00	2.51	2.00	2.51	-----	37 00	9427	
6.37	12.37	11.00	11.05	10.00	1.32	1.00	2.11	2.00	2.11	-----	37 75	9495	
6.00	11.54	11.00	10.34	10.00	1.20	1.00	5.56	5.00	5.56	-----	45 00	9940	
3.27	10.97	11.00	10.49	10.00	0.48	1.00	2.33	2.00	2.33	-----	34 75	9423	
1.50	11.35	11.00	10.85	10.00	0.50	1.00	2.01	2.00	2.01	-----	42 00	9804	
3.22	11.61	11.00	10.71	10.00	0.90	1.00	1.92	2.00	1.92	-----	38 25	9566	
3.25	11.61	11.00	10.93	10.00	0.68	1.00	*1.39	2.00	-----	1.39	37 00	9511	
3.42	11.99	11.00	10.37	10.00	1.02	1.00	4.35	4.00	4.35	-----	42 25	9465	
3.25	12.63	11.00	11.13	10.00	1.50	1.00	2.41	2.00	2.41	-----	38 00	9573	
1.57	12.31	11.00	11.45	10.00	0.86	1.00	*3.58	4.00	3.58	-----	44 75	9751	
2.23	7.83	7.00	6.91	6.00	0.42	1.00	*2.54	3.00	2.54	-----	38 00	9019	
1.15	11.54	11.00	10.38	10.00	1.16	1.00	2.24	2.00	1.80	0.44	35 00	9582	
2.62	11.42	11.00	10.70	10.00	0.72	1.00	1.85	2.00	1.85	-----	-----	9857	
4.92	11.80	11.00	11.04	10.00	0.76	1.00	2.12	2.00	2.12	-----	-----	9733	
2.72	12.54	12.50	11.86	12.00	0.68	0.50	2.78	2.00	2.78	-----	41 00	9473	
2.90	12.31	11.00	11.65	10.00	0.66	1.00	2.24	2.00	2.24	-----	40 00	9871	
0.68	11.23	11.00	10.83	10.00	0.40	1.00	*0.12	2.00	0.12	-----	36 00	9756	
3.00	12.18	11.00	11.38	10.00	0.80	1.00	*1.79	2.00	1.79	-----	36 00	9688	
7.80	13.33	13.00	12.31	12.00	1.02	1.00	3.14	3.00	3.14	-----	40 00	9989	
6.40	8.94	7.00	8.16	6.00	0.78	1.00	*2.55	3.00	2.55	-----	36 25	9478	
6.03	11.67	11.00	10.63	10.00	1.04	1.00	*3.57	4.00	3.57	-----	46 50	9408	
2.00	11.67	-----	10.71	10.00	0.96	-----	1.25	1.00	1.25	-----	33 00	9757	
5.07	10.78	-----	10.26	10.00	0.52	-----	1.09	1.00	1.09	-----	33 00	9546	

\*Deficient.

TABLE V.—ROCK AND

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	READING CHEMICAL CO., READING, PA.	
9455	Soluble Grain Mixture, -----	Daniel Beek, Warriors Mark, -----
9051	Soluble Grain Mixture, -----	M. K. Hoke, Manheim, -----
	ROBERT A. REICHARD, ALLENTEWON, Pa.	
9780	Reichard's Ameriean Eagle, -----	Weston H. Kein, Emerald, -----
9801	Reichard's American Eagle, -----	J. E. Kneer, Northampton, -----
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
9845	Royer's 9-5 Phosphate and Potash, -----	J. W. Redd, Dyberry, -----
9687	Royer's 10-2 Phosphate and Potash, -----	Chas. Huston & Brother, Three Springs, -----
9457	Royer's 12-5 Phosphate and Potash, -----	J. K. Mattern, Julian, -----
	THE SCOTT FERTILIZER COMPANY, ELKTON, MD.	
9515	Scott's Soluble Phosphate and Potash 12-2, -----	Edw. Rup rt, Oxford, -----
	SOUTHERN FERTILIZING COMPANY, BALTIMORE, MD.	
9607	Farmers Mixture, -----	A. A. Haimes, Honeybrook, -----
	SWIFT & COMPANY, BALTIMORE, MD.	
9886	Swift's Farmers Home, -----	Thos. Garri on, Berwick, -----
9962	Swift's Farmers Home, -----	H. L. Overly, Bird-in-Hand, -----
9331	Swift's Special Phosphate & Potash, -----	Darry L. Overly, Bird in-Hand, -----
	I. P. THOMAS & SON COMPANY, PHILADELPHIA, PA.	
9523	Special Alkaline Fertilizer, -----	F. M. Griffith & Son, Downingtown, -----
	THE J. E. TYGERT COMPANY SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, PHILA DELPHIA, PA.	
9130	Fearless Fertilizer Revised, -----	Isaac B. Krall, Myerstown, -----
9822	Tygert's Soluble Phosphate and Potash, -----	O. M. Lummis, Uwchland, -----
9742	Tygert's Soluble Phosphate and Potash, -----	Ed. E. Ream, Palmyra, -----
	VIRGINIA-CAROLINA CHEMICAL CO., OF DELAWARE, BALTIMORE, MD.	
9874	V. C. Special Phosphate & Potash, -----	Victor Solt, Weissport, -----
9414	V. C. Special Phosphate & Potash, -----	N. R. Yost, Myerstown, -----
9939	V. C. Sweepstakes Brand, -----	John S. Zimmerman, East Earl, -----
	THE ROBERT A. WOOLDRIDGE COMPANY, SUBSIDIARY OF THE AMERICA AGRICULTURAL CHEMICAL COMPANY BALTIMORE, MD.	
1563	Wooldridge's Ameriean Potash Mixture, -----	Jno. A. Crilly, Imler, -----
1450	Wooldridge's No. 1 Phosphate & Potash -----	D. C. Harpster, Port Matilda, -----
	YORK CHEMICAL WORKS, YORK, PA.	
1875	Dempwolf's Ten and Two, -----	Steninger Brothers, Middleburg, -----
1735	Dempwolf's Ten and Two, -----	Geo. S. Stitzel, Fleetwood, -----
9597	Dempwolf's Twelve & Four, -----	A. T. Baird, Lock Haven, -----
9939	Dempwolf's Twelve & Four, -----	Brown & Rea, Fairmount, -----
		Average, -----

## POTASH FERTILIZERS—Concluded.

Moisture.	PHOSPHORIC ACID.						POTASH.						Chemist's number.	
	Total.		Available.		Insoluble.		Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Selling price per ton at place of selection.			
3.97 3.00	11.54 11.42	11.00 11.00	9.88 10.78	10.00 10.00	1.66 0.64	1.00 1.00	2.60 2.21	2.00 2.00	2.69 2.21	----- -----	39.00 39.00	9455 9455		
2.05 1.52	11.42 11.48	11.00 11.09	10.48 9.82	10.00 10.00	0.94 1.66	1.00 1.00	1.87 2.26	2.00 2.00	1.87 2.26	----- -----	39.00 42.00	9780 9801		
0.50 6.80 11.22	9.44 11.16 12.46	8.50 10.50 12.50	8.36 10.60 11.84	8.06 10.00 12.00	1.08 0.56 0.62	0.50 0.50 0.50	*4.57 2.04 5.60	5.00 2.00 5.00	4.57 2.04 5.60	----- ----- -----	35.67 38.00 53.00	9815 9687 9457		
3.03	13.39	13.00	12.37	12.00	1.02	1.00	2.10	2.00	2.10	-----	42.00	9515		
1.90	10.97	11.00	9.91	10.00	1.06	1.00	2.61	2.00	2.01	-----	38.00	9607		
2.00 1.30 1.32	10.59 11.54 11.74	10.00 10.00 10.00	*9.77 10.88 11.14	10.00 10.00 10.00	0.82 1.16 0.60	----- ----- -----	6.46 4.17 2.67	4.00 4.00 2.00	6.46 4.17 2.67	----- ----- -----	43.00 44.00 38.00	9886 9962 9931		
4.80.	11.74	10.50	10.46	10.00	1.28	0.50	4.36	4.00	4.36	-----	49.00	9523		
2.05 1.77 0.95	12.88 11.35 10.72	13.00 11.00 11.00	*11.82 10.05 *9.58	12.00 10.00 10.00	1.08 1.30 1.14	1.00 1.00 1.00	2.83 2.83 2.16	3.00 2.00 2.00	2.83 2.83 2.16	----- ----- -----	41.50 37.00 39.00	9430 9822 9742		
2.00 8.45 8.50	11.29 12.82 12.37	11.00 11.00 13.00	10.13 11.46 *11.35	10.00 10.00 12.00	1.16 1.26 1.02	1.00 1.00 1.00	*4.57 *4.45 2.56	5.00 5.00 2.00	4.57 4.45 2.56	----- ----- -----	48.00 48.00 37.00	9874 9414 9939		
7.15 3.32	10.94 7.05	11.00 7.00	9.90 6.55	10.00 6.00	1.04 0.50	1.00 1.00	2.03 *2.57	2.00 3.00	2.03 2.57	----- -----	39.00 38.00	9563 9453		
0.82 1.67 2.92 2.00	11.48 12.12 13.65 13.46	10.00 10.00 12.00 12.00	10.50 11.50 12.99 12.80	10.00 10.00 12.00 12.00	0.98 0.62 0.66 0.66	----- ----- ----- -----	2.01 2.01 4.59 4.74	2.00 2.00 4.00 4.00	2.01 2.00 4.59 4.74	----- ----- ----- -----	39.75 9735 9597 9969	9835 9735 9597 9969		
3.66	11.48	-----	10.60	-----	0.88	-----	2.73	-----	-----	-----	\$40.31	-----		

\*Deficient.

TABLE NO. VI.—MISCELL.

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	NITRATE OF SODA.	
	THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
9655	Nitrate of Soda, -----	F. Learn, Ransom, -----
9614	Nitrate of Soda, -----	J. E. Streeter, Clark Summit, -----
9637	Nitrate of Soda, -----	I. G. Williams, Lake Ariel, -----
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
9722	Nitrate of Soda, -----	L. B. Weller, Ligonier, -----
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
9635	Nitrate of Soda, -----	J. E. Edwards, Glenburn, -----
	MISCELLANEOUS.	Average, -----
	THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
8518	Animal Base Special, -----	Geo. B. Passmore & Bro, Oxford, -----
9488	Phospho Plaster, -----	D. H. Maust, Jerseytown, -----
	LISTERS AGRICULTURAL CHEMICAL WORKS, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEWARK, N. J.	
9440	Listers Separated Ground Bone and Tankage Acidulated, -----	Morrow & Buxton, Valencia, -----

## ANEOUS FERTILIZERS.

Moisture.	NITROGEN.			PHOSPHORIC ACID.						Chemist's number.	
	Found.	Guaranteed.	Found.	Total.		Available.		Insoluble.			
				Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.		
0.10	16.06	15.00	-----	-----	-----	-----	-----	-----	-----	9655	
0.03	16.12	15.00	-----	-----	-----	-----	-----	-----	-----	9644	
0.12	16.24	15.00	-----	-----	-----	-----	-----	-----	-----	9637	
0.67	15.64	14.81	-----	-----	-----	-----	-----	-----	95.00	9722	
0.05	16.10	15.00	-----	-----	-----	-----	-----	-----	89.50	9635	
0.19	16.63	-----	-----	-----	-----	-----	-----	-----	884.90	-----	
2.09	1.60	1.23	20.03	19.00	4.79	2.00	1.08	2.00	55.00	9518	
2.50	-----	-----	5.87	4.00	-----	-----	-----	-----	-----	9488	
3.27	2.56	2.67	13.29	12.00	-----	-----	-----	-----	70.60	9440	

\*Deficient.

